ALSO IN OUR NEWS SECTION ▪ Sun plans to offer its Solaris operating system under a subscription-based pricing model. PAGE 7
▪ IT auditors say they're having a tough time documenting controls for Sarb-Ox compliance. PAGE 8

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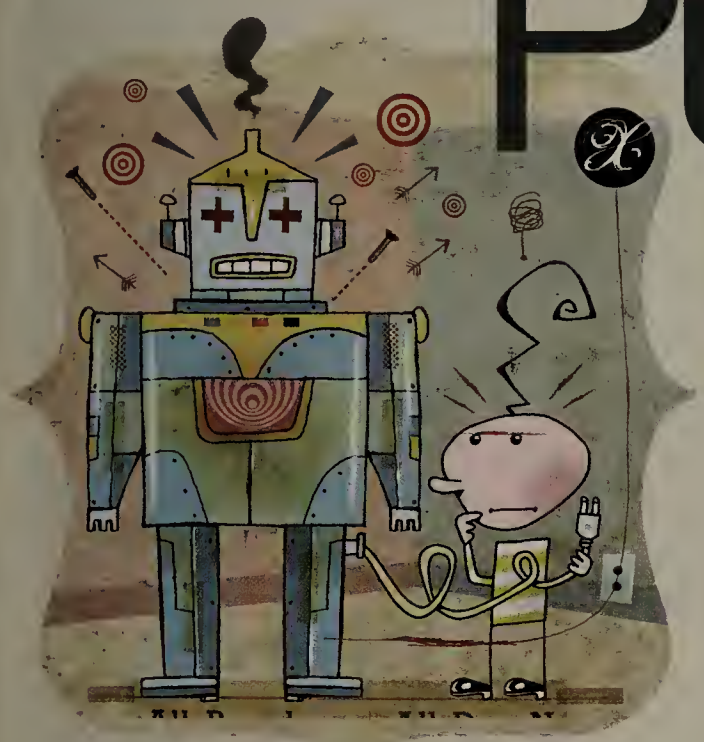


WALTER VASCONCELOS

Pulling the Plug

The software isn't working – or it isn't scaling up. Users are fuming about delays. Relations with the vendor have become tense. It's time for the CIO to take decisive action. **PAGE 33**

Users Question Commitment to Storage Standard

Vendors pass tests for management interface compliance; doubts about full support linger

BY LUCAS MEARIAN
PHOENIX

The Storage Networking Industry Association last week said that more than 100 storage devices have passed a test for compliance with a new management interoperability standard. But users were skeptical that they will suddenly be able to easily manage multivendor storage-area networks through a single, open interface.

The SNIA announced compliant products from 14 vendors at the Storage Networking World conference here, among them disk arrays and storage switches. All have passed the trade group's conformance testing program for the Storage Management Initiative Specification, a set of protocols designed to let storage management tools control competing hardware devices.

Mark Detert, director of data center and automation operations at Visa U.S.A. Inc.'s debit processing services unit in Englewood, Colo., said it's up to vendors to help users by bolstering the interoperability of storage devices through mechanisms such as SMI-S.

Rival vendors need to realize that a single

Storage, page 14

INSIDE
Users at SNW say stand-alone storage management tools don't cut it.
PAGE 14

Sun-Microsoft Pact Whets Users' Appetites for More

IT execs want truce to set standard that other vendors can emulate

BY PATRICK THIBODEAU
LAS VEGAS

The agreement between Sun Microsystems Inc. and Microsoft Corp. to improve interoperability was an essential step toward enabling broad adoption of technologies such as Web services and grid computing, users said last week. And they want other vendors to follow suit.

"[Vendors] have to get along together because our systems are requiring that they get along together. They have no choice," said Roger Squire, director of production operations at a multibillion-dollar food distributor that he asked not be named.

Sun and Microsoft made it clear that their recently announced accord was prompted by user demand for better interoperability between the two vendors' technologies [QuickLink 45957]. But whether the agreement is really a sign that users are gaining clout with vendors was a matter of debate at last week's AFCOM data center user-

Vendors, page 16

> **I think vendors are listening more, and they have to listen more, simply to survive.**
>
> **DON TISSELL**, SERVER FACILITIES MANAGER, FRITO-LAY INC.

OUR TAKE
Sun-Microsoft accord proves you're in charge, says Maryfran Johnson.
PAGE 20

Rift With PeopleSoft Splits Quest

Two special-interest groups defect from user organization

BY MARC L. SONGINI

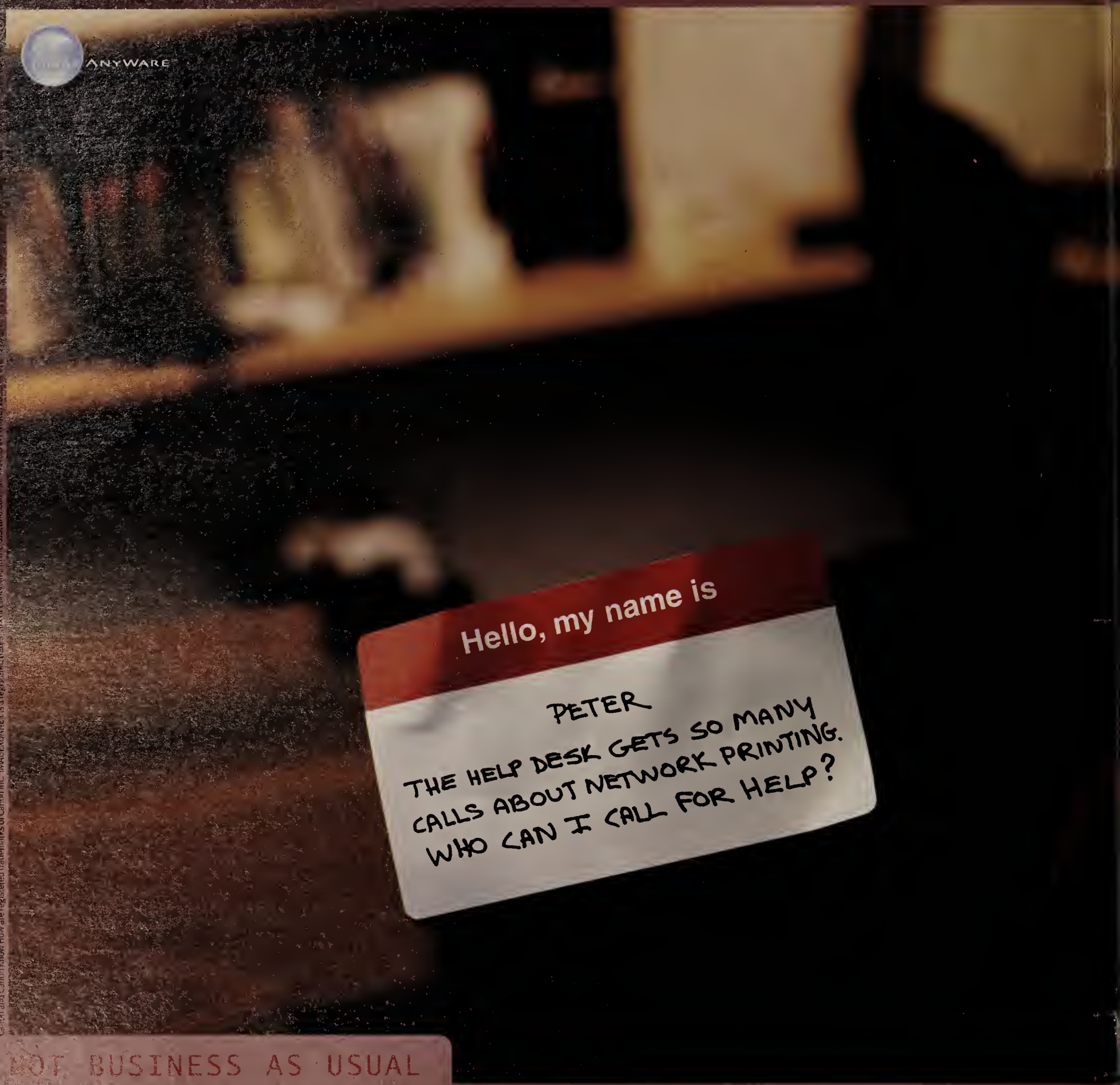
Quest International Users Group, the independent organization that has been at odds with PeopleSoft Inc. in recent months, is losing some of its members to the software vendor's main coalition of user groups, raising new questions about Quest's ability to survive without any ties to PeopleSoft.

Quest officials confirmed that two special-interest groups, the World Advisory Council and the Real Estate Group, have decided to join a loosely controlled network of about 170 PeopleSoft user groups that are organized by industry, product or region.

The World Advisory Council includes users of J.D. Edwards & Co.'s green-screen ERP applications, now called PeopleSoft World, and the

Quest, page 45

NEWSPAPER



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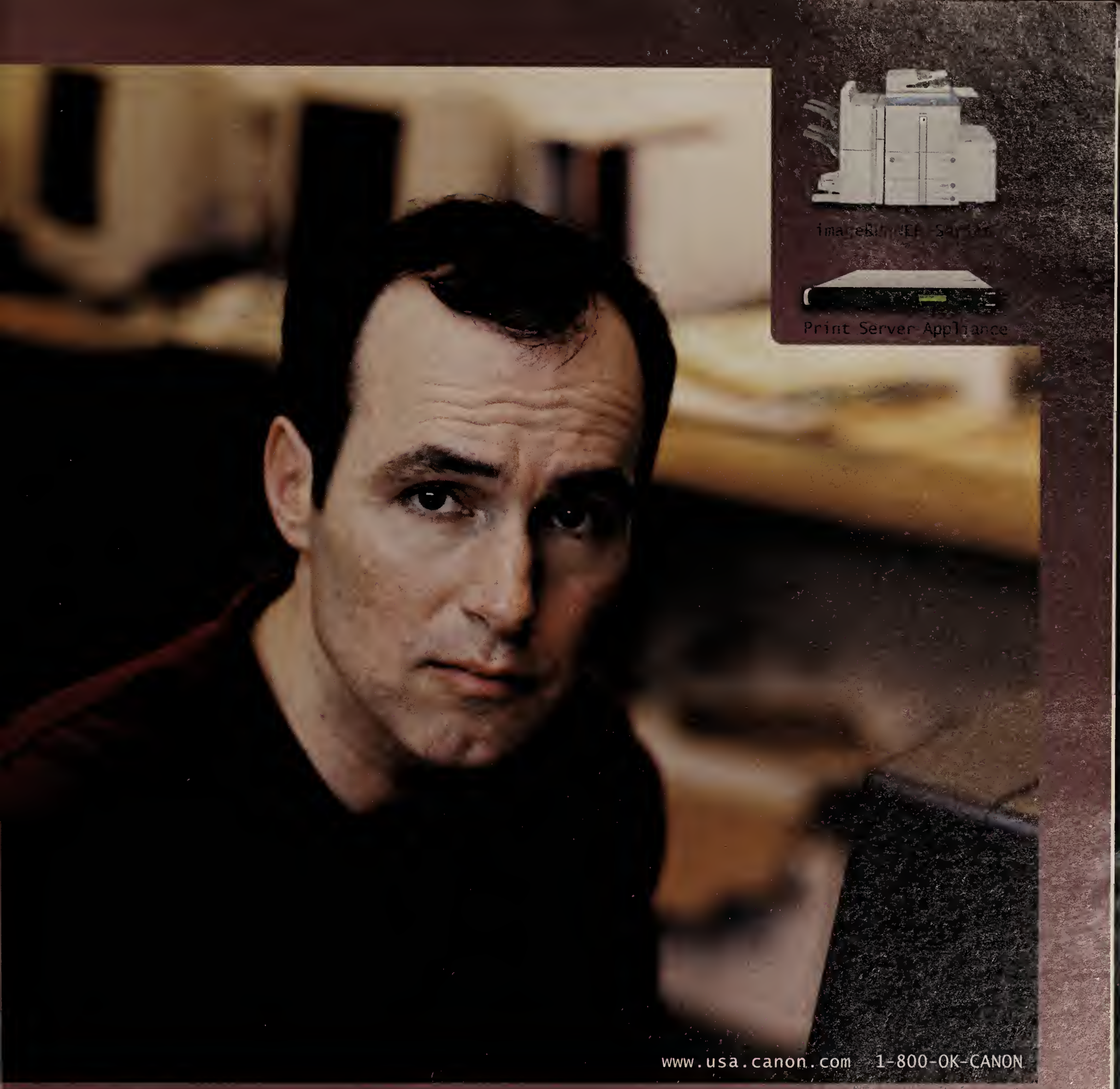

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20 **Pimm Fox** writes that ISPs looking for a differentiator should make security of their customers' data and broadband pipes their top concern.

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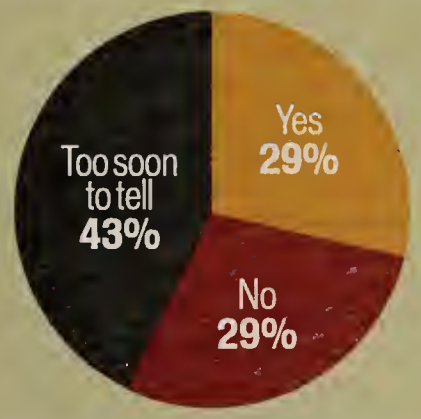
QuickPoll Results

Is the Sun-Microsoft agreement good for users?



Note: Percentages don't add up to 100% due to rounding.

Take this week's QuickPoll at **www.computerworld.com.**

SOURCE: *COMPUTERWORLD.COM* NONSCIENTIFIC SURVEY, 327 VOTES

Four Keys to Virtual-Team Success

IT MANAGEMENT: Learn how to work with the various personality types on your geographically dispersed team, advises trainer Claire Sookman. **QuickLink 45866**

Stop Playing 'Patch-up'

SECURITY: Workstations aren't the only systems companies should be protecting against security holes, says Tivoli's Bob Madey. **QuickLink 45881**

Is There a Place for 802.11a?

MOBILE/WIRELESS: Using more than one wireless standard can add flexibility, says columnist Allen Hutchison. **QuickLink 46079**

What's a QuickLink?

Throughout each issue of *Computerworld*, you'll see five-digit QuickLink codes pointing to related content on our Web site. Also, at the end of each story, a QuickLink to that story online facilitates sharing it with colleagues. Just enter any of those codes into the QuickLink box, which is at the top of every page on our site.

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The Online Store
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AT DEADLINE

Former CA Execs Admit to Fraud

Three former finance executives at Computer Associates International Inc. pleaded guilty to securities fraud and conspiracy charges related to improper booking of sales during the company's 2000 fiscal year. Among those entering pleas was former Chief Financial Officer Ira Zar. A fourth former CA official pleaded guilty in January; all four were forced to resign in October.

In a statement, the U.S. attorney for the Eastern District of New York said the guilty pleas "demonstrate the corrupt culture in Computer Associates' management." CA previously acknowledged that revenue was improperly recognized through the use of a "35-day month" approach, in which sales were booked after a quarter ended.

Last week, CA said the ongoing federal probe could result in charges against other executives. In addition, the company noted that its audit committee is close to finishing an internal investigation and an assessment of whether CA will have to restate any financial results.

Sun's Cuts Prompt Processor Changes

Sun Microsystems Inc. said it's dropping plans to develop an UltraSparc V high-end processor and a chip called Gemini for low-end servers. Instead, Sun will focus on developing a pair of server chips code-named Rock and Niagara. The changes are part of the downsizing that Sun announced two weeks ago.

Vendors Team on Cobol Migration

Microsoft Corp. and Micro Focus International Ltd. in Rockville, Md., said they're teaming up to support migration of Cobol mainframe applications to Windows servers. The deal is built around the use of rehosting software developed by Micro Focus.

Foundry Launches High-Layer Switches to Help Block Attacks

Products focus on prevention of DoS attacks

BY MATT HAMBLEN

FOUNDRY Networks Inc. today will announce modular and stackable switches for Layer 4-7 tasks, with a particular focus on corporate security requirements.

San Jose-based Foundry will launch two modular switches dubbed ServerIron 450 and ServerIron 850 and a stackable device called ServerIron GT.

The products are designed to deter denial-of-service (DoS) attacks, company officials said. The modular switches deliver up to 320,000 Layer 4 connections per second, a speed that improves their ability to identify whether a transmission is permitted. That translates to protection against more than 4 million DoS attack packets per second, the officials said.

Interland Inc., a Web hosting provider in Atlanta, is considering purchasing two ServerIron 450s for one of its data centers to fight spam, said Greg Conroy, a network manager at Interland. "The key is being able to filter out spam that abuses our services," he said.

Interland has 200,000 Web hosting customers, with 6,000 Web servers in each of its data centers in Atlanta and Miami and about half as many in a data center in Fremont, Calif.

The company has used previous versions of ServerIron products but wants the new capabilities in the ServerIron 450 for policy-based routing to determine whether e-mail is allowed, Conroy said.

He added that Interland typically doesn't consider products from other networking equipment providers because his staff is trained on Foundry's products. "There are no others we'd feel comfortable deploying," he said.

The market for Layer 4-7 products is dominated by Cisco Systems Inc. and includes vendors such as F5 Networks Inc. in Seattle and Radware Inc. in Mahwah, N.J., said Zeus Kerravala, an analyst at The Yankee Group in Boston.

Market revenue reached $400 million last year and could climb to $1 billion in 2007, he said, attributing the expected growth to increased interest in building more intelligence into networks.

In addition to security, Layer 4-7 switches handle tasks such as load balancing, traffic shaping and route control.

Also today, Foundry is announcing a new version of its Content Analysis Engine that supports a range of application content standards, including SOAP, XML, Financial Information Exchange, the Wireless Application Protocol and the Session Initiation Protocol. It can be customized to inspect, filter, switch and prioritize application traffic, Foundry said. 46082

FOUNDRY'S PRODUCTS

MODULAR SWITCHES

ServerIron 450/850

General availability: This month

- 450: $34,995
- 850: $38,995

STACKABLE SWITCHES

ServerIron GT

General availability: Summer

- Four-port Gigabit: $14,995
- Four-port Gigabit with Secure Sockets Layer: $21,995
- 12-port Gigabit with SSL: $27,995

Group Urges Feds to Leverage Buying Power to Boost Security

BY JAIKUMAR VIJAYAN

A working group of representatives from IT trade and security organizations is calling for federal agencies to use their massive buying power to force IT vendors to build more secure products.

The Corporate Information Security Working Group (CISWG), established in November by Rep. Adam Putnam (R-Fla.) [QuickLink 42668], also recommends that insurers base the cost of cyber-risk insurance policies on a company's security posture to encourage adoption of best practices. Putnam's office announced these and other recommendations last week.

The CISWG's mission is to develop a private-sector plan for improving cybersecurity in corporate America. Its members include representatives from several high-tech trade associations and security groups, including the Information Technology Association of America, the Business Software Alliance and the Internet Security Alliance.

Enforcing Standards

One key recommendation calls for enforcement of the provisions of the Federal Information Security Management Act, said Alan Paller, a CISWG member and director of the SANS Institute, a security organization in Bethesda, Md. FISMA requires federal agencies to establish and enforce minimum security configuration standards for systems they buy. And that will benefit corporations as well, Paller noted.

"The federal government has $56 billion worth of buying power. If it sets minimum requirements for its own machines, it will cost the vendors nothing to deliver similarly safe machines" to the private sector, Paller said.

Another recommendation is for the establishment of standard guidelines and generally accepted measurement tools that users can adopt when implementing security procedures, said Michael Rasmussen, an analyst at Cambridge, Mass.-based Forrester Research Inc. and a CISWG member. "A lot of the existing guidance is all over the map," Rasmussen said. 46111

ADDED ADVICE

Other CISWG Recommendations

- Provide an exemption from U.S. antitrust laws for critical infrastructure industry groups that agree on obligatory security specifications for software and hardware that they purchase.
- Establish third-party designations that identify qualified, certified and/or compliant organizations.

SOURCE: CISWG

IT Execs Ambivalent About Subscription Pricing

Sun plans to adopt model for Solaris; lower costs unlikely

BY PATRICK THIBODEAU
LAS VEGAS

Software subscription licensing plans, like the one Sun Microsystems Inc. intends to offer for its Solaris operating system, may be appealing to some users. But companies aren't expecting the model to lower their costs.

"I can see the benefit right off the bat," said Paul Romano, senior manager of computer operations at Commonwealth Automobile Reinsurers in Boston. "You know upfront what your cost will be and how it will affect your bottom line."

But Romano said the subscription model doesn't mean there's a price break. "Nothing lowers your cost. [Vendors] say they will lower your costs, and they will kill you" with higher prices, said Romano.

John Loiacono, who recently replaced Jonathan Schwartz as head of Sun's software division, said last week that a subscription plan is in the works for the Solaris operating system. Solaris 10, a major new release of Sun's version of Unix, is due by year's end.

> **"Nothing lowers your cost. [Vendors] say they will lower your costs, and they will kill you [with higher prices].**
>
> **PAUL ROMANO,** SENIOR MANAGER, COMMONWEALTH AUTOMOBILE REINSURERS

Loiacono isn't promising price reductions with the subscription model, but he said he believes users want the predictability and simplification that a subscription can yield. Sun is looking at a range of pricing options that also include hardware. "We have a lot of ideas on the table," he said.

Loiacono said that one model is similar to a cell phone licensing agreement in which users "get the hardware and software effectively for free because they charge you for the service."

Sun has introduced several innovative pricing models since last fall. For example, in September it began offering its Java Enterprise System, an integrated software stack that includes Sun's directory, application and portal servers, at an annual fee of $100 multiplied by the number of employees in the user company [QuickLink 41523].

Several users who met here last week at the AFCOM data center conference expressed interest in the subscription plan but also said that licensing — regardless of the model — is becoming a major headache.

The city of Norfolk, Va., has begun searching for someone to manage its software licensing, partly out of a need to ensure that it isn't caught running unlicensed software during a vendor's audit, said Donald Adams, manager of computer operations and voice communications for the city.

"It's hard to control and keep track of licenses," said Adams, noting that one problem the city faces is departments that install software on systems but don't tell the IT department about it. "It's a mind-boggling mess," he said.

Whether the subscription model is of any help would depend entirely on how much it costs, Adams said. **46110**

Nortel Offers Apps to Improve Reliability of Voice IP Systems

BY MATT HAMBLEN

Nortel Networks Ltd. last week announced two networking software products designed to increase the reliability of IP voice systems in branch-office operations.

The Survivable Remote Gateway (SRG) and Business Communication Manager (BCM) 3.6 augment Nortel's Succession 1000 IP private branch exchange voice switch.

LAMPNER says the SRG could help maintain phone service during a DNS attack.

The combination gives branch-office users full access to the same voice features and applications that exist at the main corporate site, said Aziz Khadbai, general manager of local premise solutions at Nortel.

Chimes International, a nonprofit organization in Baltimore that operates group homes for people with disabilities in five states, plans to deploy the SRG in one of its Baltimore sites this week. The deployment follows a successful five-week test, said Martin Lampner, CIO and chief financial officer at Chimes, which uses voice-over-IP technology for its telephone system.

Lampner said the SRG's main function will be to ensure a live telephone connection for group-home residents should there be an Internet failure. The SRG software automatically converts a voice call from IP to a circuit-switched call over the public switched telephone network (PSTN) if there's a problem with Internet connectivity, he said. "We provide a lot of services where we can't afford to be without a phone," Lampner said. "In the event of a failure of the Internet through a DNS attack, the ability [to avoid stranding] people without phone service is very attractive."

If this week's deployment is successful, Lampner said he plans to use the SRG at a second group home.

Chimes' move to the Succession system last year was its first step toward IP telephony. Lampner said that over the years, he has tried various products from Cisco Systems Inc. and 3Com Inc. but found Nortel gear to be generally more reliable.

It's possible to route calls from IP to circuit-switched technology with equipment from other vendors, but the SRG appears to be unique in that it does so automatically, said Zeus Kerravala, an analyst at The Yankee Group in Boston. Cisco has a product that reroutes IP phone calls in the event of an outage, but instead of rerouting to the PSTN, the software locates another IP connection.

The SRG will sell for $1,310. There's no charge for the upgrade to BCM 3.6, which Nortel said provides a range of call center and voice features to the Succession switch. Both products will ship next month. **46094**

IT Vets Reminisce on IBM 360's 40th Anniversary

LAS VEGAS

As IBM celebrated the 40th anniversary of its System/360 mainframe in Silicon Valley last week, gray hair gave away the IBM 360 veterans attending the AFCOM conference, which took place here at about the same time as IBM's celebration.

Mark Watts, a data center supervisor at an insurance company in Phoenix that he asked not be named, is a 37-year IT veteran who remembers the 360 as a major technology advance.

Previously, IT workers had to change wiring configurations to get certain processes to run, Watts said. "It was wonderful because you didn't have to wire the boards anymore," he said.

Dan Gollahon, another 360 veteran, called the system "revolutionary," but time hasn't softened his criticism of its expense. He said a process that used to cost him $1 to run on another IBM system that wasn't as full-featured cost him $5 on the 360. Gollahon is now business development manager at Triton Technology Systems Inc. in Tulsa, Okla.

SOURCE: IBM

IBM'S 360 once featured state-of-the-art technology and design.

Marc Veen, operations support at Alticor Inc. in Ada, Mich., started working in IT with the advent of the 360's successor, the IBM System/370.

And he will witness another bit of history, at least at his company. Alticor is gradually ending its use of mainframes, moving to more open systems.

"The mainframe is going away," Veen said.

– Patrick Thibodeau

MORE THIS ISSUE

Frank Hayes writes about the legacy of IBM's System/360. **Page 46**

The 360's Progeny: IBM marks the System/360's anniversary with the release of the zSeries 890 mainframe server.

QuickLink 46034
www.computerworld.com

IT Auditors Seek Sarb-Ox Guidance

Biggest obstacle is lack of clarity on which controls should be documented

BY THOMAS HOFFMAN
ROSEMONT, ILL.

More than a dozen corporate IT auditors attending a conference here last week said they're struggling mightily to document the controls used within their IT departments in time to meet the Sarbanes-Oxley compliance deadlines that most large companies are facing late this year.

The biggest challenge in meeting the deadline for documenting internal IT controls as required by Section 404 of the Sarbanes-Oxley Act is a lack of clarity from the government entity that's overseeing compliance regarding which controls should be documented and the best ways to do it, attendees said.

They noted that the Public Company Accounting Oversight Board hasn't told companies to use a specific methodology for documenting IT controls, such as COBIT, COSO or ISO 17799. That has made it difficult for the Big Four accounting firms and other external auditors to give advice on which IT controls need to be documented, according to attendees.

"It's hard for us to do this when no one is able to tell us exactly what needs to be documented," said an IT auditor who works at a New York-based investment bank. Like almost all of the other auditors interviewed at the conference, she asked not to be identified.

William Powers, associate director of the accounting oversight board's inspections division in New York, said the regulatory body plans to devote a lot of attention this year to the IT controls assessment work done by public accounting firms. That work includes the risk-assessment process as well as the documentation and testing of general and application controls.

In turn, accounting firms are expected to monitor the IT risk-assessment procedures and information systems audit work that's done by their clients to meet Sarbanes-Oxley mandates, Powers added. But when asked if the oversight board plans to recommend the use of a single IT controls standard, he said, "Absolutely not."

Help on the Way

The Rolling Meadows, Ill.-based Information Systems Audit and Control Association, which hosted the conference, said it plans to roll out a Web-enabled version of the COBIT standard within a few weeks. The new release of COBIT, which is formally called Control Objectives for Information and related Technology, is designed to help IT auditors browse for best practices, do benchmarking and obtain other guidance as part of Sarbanes-Oxley compliance efforts.

In addition to the lack of guidance from regulators, IT auditors said they're also struggling with other issues as part of Sarbanes-Oxley projects. The challenges include identifying a hornet's nest of controls and interfaces among decentralized business units and trying to manage the efforts with scarce resources.

For instance, Lynn Kilroy, IT audit director at Allstate Insurance Co. in Northbrook, Ill., said she has a team of just 11 auditors who work within the company's internal audit group. By comparison, the insurer has a 5,000-person IT staff.

Companies with market capitalizations of $75 million or more have to show they comply with Section 404 of Sarbanes-Oxley when they file their 10-K reports for fiscal years that end after Nov. 15.

Kenneth Gabriel, a consultant at KPMG LLP in Chicago, recommended that IT auditors simplify their compliance efforts as much as possible. "You don't get extra credit for this exercise," he said.

But for large companies that need to document dozens or even hundreds of IT controls in such a short period of time, the task can seem overwhelming. "For IT auditors, it's going to get a lot worse before it gets better," Kilroy said.

46112

Take Control

IT auditors working on Sarbanes-Oxley compliance projects should:

FORM a project management office to organize and plan IT controls documentation efforts.

SPEND at least a few weeks describing to IT and business managers the nature of the work that needs to be done.

COMMUNICATE with business managers who "own" certain IT controls about the importance of documenting and testing them.

MAKE the documentation efforts a priority within the IT department in order to avoid funding or resource problems.

REGULATION ROULETTE

Users question whether IT outsourcers can adequately document internal controls:

QuickLink 46113
www.computerworld.com

Deadline Rush Delays Internal Improvements

NEW YORK
U.S. companies are expected to invest billions of dollars this year in technologies and consulting services to help them comply with Sarbanes-Oxley, HIPAA and other regulations. But few will be able to quickly leverage those investments to improve their internal business processes, IT executives and analysts said last week.

That's because most companies are focused on meeting rapidly approaching regulatory deadlines, according to speakers at a compliance-related conference held here by IBM.

For instance, the race to meet the Sarbanes-Oxley deadline for documenting internal controls is preventing companies from making far-reaching changes to their operations as part of their projects, said Susanne Ruschka-Taylor, who works at IBM's Business Consulting Services unit.

"If you're going to spend [billions of dollars] on these initiatives, you might as well get something out of it," said Adrian Bowles, an analyst at the IT Compliance Institute, a Seattle-based research organization that focuses on government regulations and their effect on technology.

But that's easier said than done for companies that are wrestling with compliance deadlines for a slew of federal regulations, including Sarbanes-Oxley, the Health Insurance Portability and Accountability Act and the USA Patriot Act.

Some regulatory analysts have said it makes more sense for companies to install compliance frameworks than it does to buy stand-alone systems to support each regulation [QuickLink 44610]. Such frameworks would provide users with a set of monitoring tools that they could apply to all regulatory requirements.

"We're not that sophisticated yet, but it's something we're trying to work toward," said John Benninger, senior vice president of risk management and corporate governance at Huntington Bancshares Inc.

The Columbus, Ohio-based bank has set aside about $500,000 for compliance with Section 404 of Sarbanes-Oxley, Benninger said. The project includes the use of IBM's Lotus Workplace for Business Controls and Reporting software. Huntington began entering data about its financial controls into the system in October. By the end of this month, it plans to go live with Version 2 of the software, which was announced last week (see box).

"I have to admit, we have a lot of work ahead of us," said David Lindstrom, chief privacy officer at Pennsylvania State University. Students at the university's School of Information Sciences and Technology are developing a wireless system based on IBM's DB2 Everyplace mobile database to create, update and delete patient records securely from any location at Penn State's Milton S. Hershey Medical Center.

The wireless system will help Penn State meet HIPAA's data requirements for patient privacy. But Stan Aungst, assistant professor of information sciences and technology, said school officials haven't decided when the technology will be put into use.

– Thomas Hoffman

NEW IBM PRODUCTS

Compliance Tools

- **Content Management for Message Monitoring and Retention**, for saving and archiving electronic messages and correspondence to meet rules such as SEC 17a-4 and NASD 3010/3110
- **Version 2 of Lotus Workplace for Business Controls and Reporting**, with additional language support, added archiving and audit-trail capabilities and a new user interface
- **Tivoli Security Compliance Manager**, for automating security policy compliance audits to address the requirements of HIPAA and the Gramm-Leach-Bliley Act

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BRIEFS

SEC Begins Full Probe of Nortel

Nortel Networks Ltd. said the U.S. Securities and Exchange Commission has begun a formal investigation in connection with a continuing series of financial restatements. Nortel said it fully cooperated with the SEC during an informal inquiry and will continue to do so. The company is based in Brampton, Ontario, but is listed on the New York Stock Exchange and the Toronto Stock Exchange.

DOJ Looks Past Big Three ERP Vendors

American Management Systems Inc. in Fairfax, Va., said it has won a contract valued at up to $24 million to provide finance applications to the U.S. Department of Justice. The agency's choice came just a month after it sued to block Oracle Corp.'s takeover bid for PeopleSoft Inc., saying the deal would leave SAP AG and Oracle as the only major vendors of enterprise-class ERP applications [QuickLink 45070].

First Data IT Glitch Affects Wal-Mart

Greenwood Village, Colo.-based First Data Corp., which processes electronic payments, said a computer hardware glitch caused processing errors on about 800,000 credit and debit transactions at Wal-Mart stores. Some customers were billed two or three times for a single purchase, First Data said. It declined to disclose the cause of the problem.

Short Takes

CISCO SYSTEMS INC. warned of a security hole in its Wireless LAN Solution Engine and Hosting Solution Engine software that could be used to hide rogue access points on WLANs. . . . LUCENT TECHNOLOGIES INC. said it fired four executives in China for allegedly violating a U.S. law against bribing foreign officials.

MARK HALL ■ ON THE MARK

AC/DC Server Maker Sashays Into . . .

. . . fourth place on IDC's list of leading Intel server vendors, in large part by replacing computers from Sun Microsystems. Trailing Dell, Hewlett-Packard and IBM doesn't faze Tom Barton, CEO of San Jose-based Rackable Systems Inc., which he says is "ahead of plan" to achieve 110% revenue growth this year. Granted, we're talking about **racking up enough orders to hit $100 million,** roughly what IBM rakes in over three business days. Nonetheless, the company's innovative packaging of the otherwise commodity 1U (1.75-in. high) servers has led to sales that average 98 systems, or about $250,000, per deal. One clever distinction is that Rackable's servers can take direct current (DC), um, directly without having to step alternating current (AC) through power-supply conversion. DC power can reach 93% efficiency, while AC barely tops a sloppy 67%. That difference saves on wattage consumed, reducing costs as well as heat-dissipation problems. You can also double the number of servers on a single rung in your rack because the company uses its patented half-depth size. Because Rackable has targeted Sun users and because 80% of its servers ship with Linux, the company's systems administration tools have that user-hostile interface Unix lovers love: the command line. None of those girlie Windows-like wizard tools. Coming later this year from Rackable will be iSCSI storage options, improved remote management and even better DC hardware, Barton claims. Rackable is also wooing high-end Sun resellers, which Barton says are "desperate" to push an Intel line of machines to their Fortune 500 users. **More woes for poor Sun.** ■ **And a woe for Microsoft** is in order, too, if you believe WebMethods Inc.'s chief technology officer. Graham Glass predicts that Eclipse will overtake Microsoft's Visual Studio .Net as the No. 1 development framework. "Eclipse will have more people building things than Visual Studio," he forecasts. Glass argues that because of the **breadth of corporate and academic contributors to Eclipse,** as well as its open-source nature vs. Microsoft's single-company, proprietary approach, Visual Studio is destined to be an also-ran, especially for corporate software creators. Graham is also optimistic about application integration and business-process automation projects, as long as you use Web services. "The time is ripe now to make programs out of [Web services] parts," he says. Not surprisingly, he wants you to build these programs with Fabric, Fairfax, Va.-based WebMethods' second-generation container for those parts. Fabric applies a **set of uniform services for security, fail-over, publish, subscribe** and other common attributes of a Web services application. Version 2 of Fabric is now in development. A key improvement will be the ability to link distinct Fabrics, making it easier for business partners to integrate applications in, say, a supply chain. ■ Mark Westover, vice president of corporate development at Sybase Inc. in Dublin, Calif., expects his company's recently announced acquisition of XcelleNet Inc. in Alpharetta, Ga., to be complete in mid-May. The deal **gives Sybase another crowbar** to leverage its lead in the mobile device database market; the company hopes this will, in turn, broaden its position inside the data center. "We're using mobility as a way to drive the whole company," Westover says. Last year, mobile database revenue grew almost 20% for Sybase, while the company's overall revenue shrank by about 20%. Westover is betting that a lot of you are busy extending custom, packaged and Web applications for mobile users and that you'll need management tools, such as those sold by XcelleNet, to control and secure the devices. That's why Sybase is willing to fork over $95 million for the company. ■ How many PCs in your company are infected with spyware and adware? **You don't know, do you?** Well, this summer you'll be able to get a free scanning tool from Stopzilla in Boynton Beach, Fla., that will let you know if machines are infected. Once you learn how many contain the annoying and dangerous programs, you may want to use Stopzilla's service, which suppresses spyware and adware before they can pop up on your screen or steal information from PCs. A one-year subscription to the service costs $29.95 per PC, but that rate is discounted as more PCs are added. And there's a 15-day free trial for you skeptics. **46086**

Replicate MySQL

Mariner Systems Inc. in San Mateo, Calif., which does business under the name Marsys, this week will announce the availability of Colada 4.1 for MySQL users. The real-time data replication and synchronization tool already works with applications using Oracle and SQL Server databases. Marsys will add support for Sybase late this year and DB2 in 2005. Pricing starts around $30,000.

Users Call for a Lighter Linux

BY ROBERT McMILLAN

At the ClusterWorld Conference & Expo in San Jose last week, Linux users and distributors debated whether Linux distributions should become simpler or more complex.

Rusty Lusk, a senior computer scientist at Argonne National Laboratory in Argonne, Ill., called on vendors to build smaller, more lightweight Linux distributions based on a modular, more easily managed architecture. That approach would reduce the complexity inherent in Linux and the "dependency" problems that occur when programs require different versions of the software libraries included in Linux, he said. "With big distributions, there are so many problems with version dependencies," Lusk said.

A systems integrator agreed that a lightweight distribution would help manage Linux's complexity. "Having that minimal installation and then being able to build on it, at least for our customers, is a real important aspect," said Henry Hall, president of Wild Open Source Inc. in Burlington, Mass.

He also called for tools that would let users track and audit changes they make to the operating system's kernel.

Donald Becker, one of the creators of the Scyld Linux distribution, predicted that distributions will become more complex, not less. "I think we're going to see the completely opposite approach," said Becker, chief technology officer at Penguin Computing Inc. in San Francisco.

Scyld, for example, looks to add as many different packages as possible to its distribution, but it also gives customers the option of "ignoring" components they don't need, he said. **46117**

McMillan writes for the IDG News Service.

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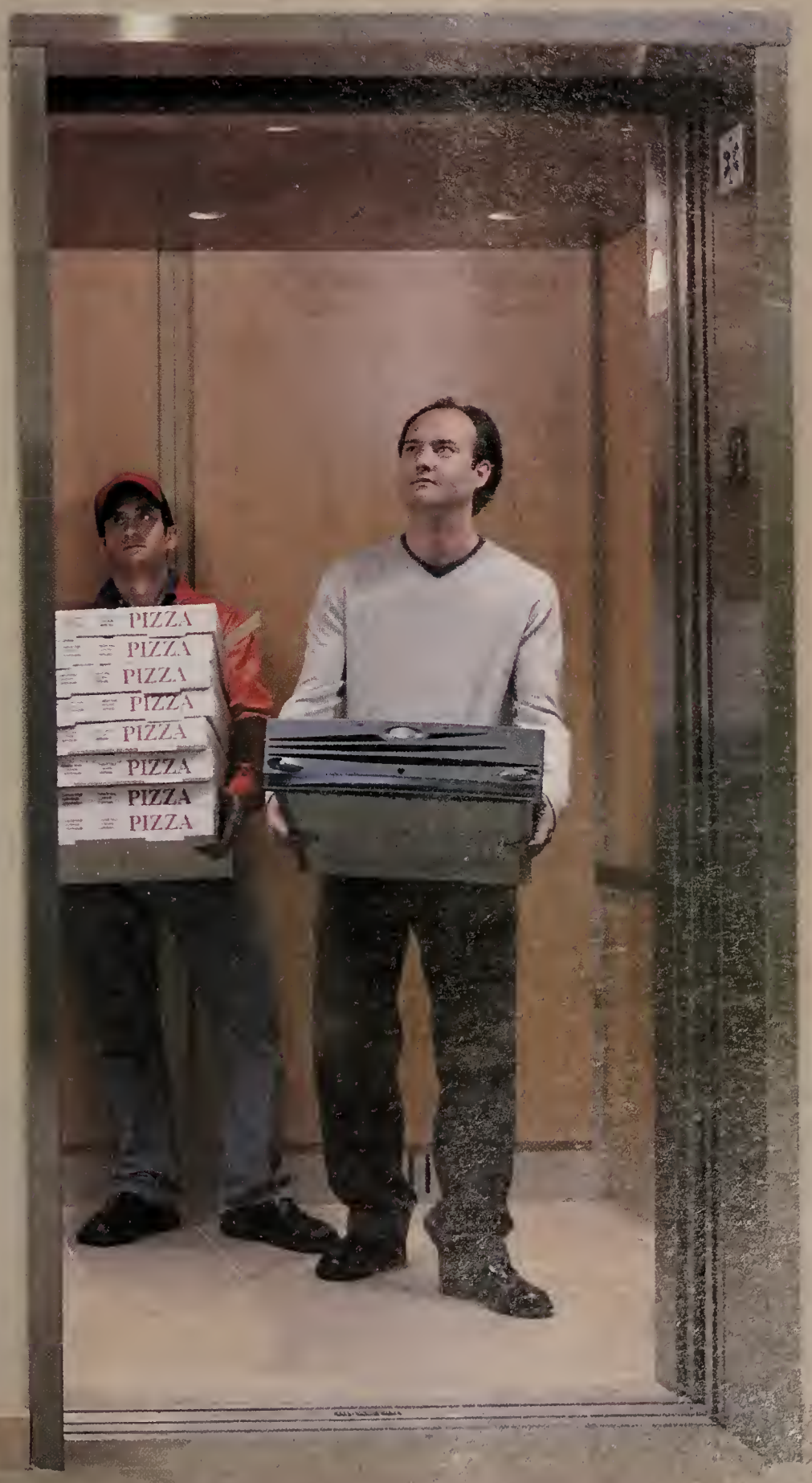

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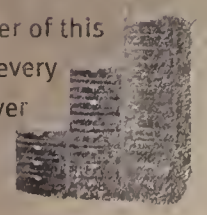

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Rice Grilled on Shortfalls In Information Sharing

Says policy, legal obstacles hindered efforts

BY DAN VERTON
WASHINGTON

THE BUSH administration "would have moved heaven and earth" to stop the Sept. 11, 2001, terrorist attacks had it known when and where they would take place, National Security Adviser Condoleeza Rice said last week in testimony before the independent commission investigating the attacks.

But "structural and legal impediments" to information sharing among U.S. law enforcement agencies prevented critical clues from reaching the White House, she said.

In stark contrast to the March 24 testimony of Richard A. Clarke, the administration's former counterterrorism coordinator, Rice stuck to a highly scripted public statement that blamed outdated legal policies and cultural obstacles throughout various federal agencies for the intelligence failure that allowed the 9/11 terrorist conspiracy to go undetected.

"The United States was effectively blind to what was about to happen," said Rice. "There was no silver bullet that could have prevented the 9/11 attacks. In hindsight, if anything might have helped stop 9/11, it would have been better information about threats inside the United States, something made difficult by structural and legal impediments that prevented the collection and sharing of information by our law enforcement and intelligence agencies."

In both his testimony and his new book, *Against All Enemies* (Free Press, 2004), Clarke specifically highlighted the FBI's lack of IT infrastructure as a major contributing factor to critical clues being overlooked [QuickLink 45781]. Former Democratic senator and commission member Bob Kerrey pressed Rice on the apparent failure of the administration and the intelligence community to use Intelink, the network for sharing classified intelligence, to get the word out that certain FBI agents were concerned about possible al-Qaeda attempts to infiltrate U.S. flight schools.

RICE blames "structural and legal impediments" for the lack of information sharing.

"I don't need a catastrophic event to know that the CIA and the FBI don't do a very good job of communicating," said Kerrey. But if the information was put out on Intelink, "the game's over," he said. "It ends. This conspiracy would have been rolled up."

Rice countered by saying that there was little that could have prevented the attacks.

Intelink was deployed in 1994 as the first intelligence community intranet for handling classified intelligence data. However, in the decade since it was introduced, the system has grown to more than 2.4 million Web pages, managed and updated by dozens of intelligence organizations throughout the national security community.

The massive growth in the amount of data available through Intelink recently led some in the intelligence community to liken conducting searches on the network to "shooting craps" [QuickLink 32701].

More troubling, however, was Rice's tacit acknowledgment that information-sharing problems still exist 19 months after the attacks.

"I would not consider the problem solved," Rice told the commission. "My greatest concern is that, as Sept. 11 recedes from memory, we will begin to unlearn the lessons we've learned." **46122**

AT&T Expands Managed Storage Push

Archiving service lets users offload e-mail retention

BY LUCAS MEARIAN

AT&T Corp. introduced an e-mail archiving service last week, joining other telecommunications companies that are trying to convince corporate users to add managed storage services to their voice and data contracts.

AT&T said it will use EMC Corp.'s Centera disk array with message archiving software developed by KVS Inc. to run the new service. The archiving capabilities are designed for financial services firms and other users that want to offload the e-mail retention, documentation and retrieval work mandated by regulations such as the Sarbanes-Oxley Act and SEC Rule 17a-4.

Rivals such as Verizon Communications, MCI and Qwest Communications International Inc. also are trying to leverage their copper and fiber-optic lines to transport data to managed storage facilities or to help companies extend their storage-area networks (SAN) to off-site disaster recovery data centers.

But at the Storage Networking World conference in Phoenix, several IT managers said they have become wary of outsourced storage services since a group of start-up storage service providers quickly foundered and died during the past few years.

Outsourcing functions such as data archiving and SAN management isn't attractive to many large companies because they already have sufficient internal resources to do the work themselves, said Mark Detert, director of data center and automation operations at Visa U.S.A Inc.'s debit processing services unit in Englewood, Colo.

Andre Mendes, chief technology integration officer for the Public Broadcasting Service in Alexandria, Va., said that from what he has seen, managed storage services are not yet "fully baked."

"If it could be guaranteed to have the same availability as a well-architectured [internal] storage network, then we're getting there," he said.

Mendes added that talented storage administrators are easier to find and less expensive to hire than they were four or five years ago during the dot-com boom. "We're not likely to experience a shortage of personnel anytime soon," he said.

But in December, Chicago-based Tribune Co. hired AT&T to extend its disaster recovery architecture and manage its storage infrastructure.

"One nice thing with them we liked is they formed really good partnerships with Nortel and Sun," said Darko Dejanovic, chief technology officer at Tribune and its Tribune Publishing Co. subsidiary. "The whole solution worked really well between the three of them."

In an interview prior to Storage Networking World, Dejanovic said he decided to outsource the extension of the media company's SAN to a secondary site three miles from its main data center because doing the work in-house would have been cost-prohibitive. "It's the traditional insurance argument: how much risk do you take as opposed to how much you're willing to invest," he said.

The new architecture provides real-time access to fully mirrored data and applications, Dejanovic said. The Tribune had a backup site prior to signing on with AT&T, but it was smaller and allowed only partial backups.

Doug Chandler, an analyst at IDC in Framingham, Mass., said he doesn't think telecommunications vendors are really filling the gap that was left by failed storage service providers like Storage Networks Inc. and Storability Inc.

"They're supplying the network pipes for some customers who are doing replication over long distances, and some telcos may have some storage-specific services," Chandler said. "But for the most part, they're not managing a lot of storage capacity themselves." **46124**

TECHNOLOGY DETAILS

AT&T E-mail Archiving

- Provides managed e-mail retention services at 21 AT&T data centers on four continents; the company plans to add four more facilities later this year.
- Archives messages on EMC's Centera disk arrays, which are designed for storing documents and other forms of fixed data.
- Manages the archiving process with Enterprise Vault, a software tool developed by Arlington, Texas-based KVS.
- Indexes all messages passing through e-mail servers and stores the content in its original format, retaining only a single copy.

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Users Want More Ties Between Storage, Systems Management

Seek comprehensive IT management frameworks, not more stand-alone tools

BY LUCAS MEARIAN
PHOENIX

Users at Storage Networking World here said they want storage management technology that can be sold to corporate executives as part of an overall systems management strategy, not just stand-alone tools.

STORAGE NETWORKING WORLD

"We can't have storage tools that are disconnected from the tools we use to manage our applications," Intel Corp. CIO Doug Busch said during an opening speech. Busch rattled off a list of issues that he and other IT leaders are facing as a result of the lack of comprehensive IT management frameworks offering logical and physical views of both business and storage systems.

For example, Intel's IT department is wrestling with questions such as how it should charge business units for their use of storage resources and for storage purchases or upgrades, Busch said.

Laurence Whittaker, supervisor of enterprise storage management at Hudson's Bay Co. in Toronto, said his top issues include the difficulty of justifying investments in storage management tools and a lack of integration between back-office systems and applications like hierarchal storage management.

Still sorely lacking are storage resource management tools that can automate tasks such as provisioning storage for a database and notifying systems administrators if an application server has used a predefined percentage of its storage capacity, said Dennis Martin, an analyst at Evaluator Group Inc. in Englewood, Colo.

"This is where the battleground is today," Martin said. "What if a port goes out on a [storage networking] switch? I want to know what business processes that's impacting."

Some attendees also said they see information life-cycle management — the process of managing data from creation to deletion and moving it to different types of storage devices — as an important emerging technology that could help companies better optimize resources.

"We can't have storage tools that are disconnected from the tools we use to manage our applications."

DOUG BUSCH, CIO, INTEL CORP

But for now, ILM is just a buzzword, Martin said. "Vendors need to bring their 20 products down to one," he said.

"I've gone from believing vendors to having them show me what their product can do," said Andre Mendes, chief technology integration officer at the Public Broadcasting Service in Alexandria, Va.

Mendes added that he doesn't buy into the argument for ILM; he thinks storage management tools create enough of a layer of abstraction that most systems administrators can manage large amounts of data without full automation.

Lynn Neal, a senior systems integrator for Sprint Corp.'s internal IT operations, said executives at Sprint want IT to do more with the technology it already has on hand. "They don't want us to buy any more equipment," she said. "They want us to increase utilization."

"I've gone from believing vendors to having them show me what their products can do."

ANDRE MENDES, CHIEF TECHNOLOGY INTEGRATION OFFICER, PBS

But Neal said IT staffers haven't had much success getting end users to adopt data-retention policies that would require fewer copies of identical information and move nonessential data to less-expensive storage devices such as tape libraries or midrange and ATA disk arrays. Neal said some Sprint users maintain as many as five copies of a database when a single one would do. **46123**

Continued from page 1

Storage

company's products likely will never account for 100% of the storage capacity at an enterprise-class data center, Detert said, adding that they should "either play the interoperability game or get out."

But IT managers attending a meeting of the SNIA End User Council questioned whether vendors would support full management of their products via the SMI-S interface.

Joseph Goins, CEO of IntelliBrowse Inc. in Milton, Wash., said he thinks SMI-S compliance will trail behind development of proprietary management application programming interfaces by vendors that want to sell their own tools.

One user, who didn't identify himself, said some of his vendors are using a software abstraction layer to give the appearance of SMI-S compliance but are actually relying on API-sharing agreements with other vendors to perform management functions. "They want to keep their APIs as a differentiator," he said.

The SNIA needs to build more credibility for its conformance program by challenging vendors to make their products fully compliant with SMI-S instead of trying to retain a management edge for their own software, said Mike Alvarado, chief operating officer at Toigo Partners International LLC in San Jose.

The vendors that passed the SMI-S compliance tests include storage heavyweights such as EMC Corp., Hitachi Data Systems Corp., Hewlett-Packard Co., IBM and Network Appliance Inc.

Ray Dunn, chairman of the SNIA's Storage Management Forum, called last week's announcement "a monumental achievement" and predicted that SMI-S will be adopted in all new storage devices by the end of next year.

Lynne Van Arsdale, the SNIA's liaison to the End User Council, said vendors will lag in supporting full control of their hardware through SMI-S compared with their own APIs. But that usually happens only when they release new technology, she added.

PHOTOGRAPHY ON THIS PAGE BY ASA MATHAT

VISA'S MARK DETERT says rival vendors need to "either play the interoperability game or get out."

"There's a strong sentiment among end users that they want this and they'll only choose products that fit into a heterogeneous environment," Van Arsdale said. "The vendors understand this."

It was clear at Storage Networking World, which was jointly sponsored by *Computerworld* and the San Francisco-based SNIA, that many users are looking for easier-to-use SAN management tools.

John Clarke, a storage architect at Thomson Legal & Regulatory in Eagan, Minn., said his company has 400TB to 500TB of storage capacity on its data center floor. It recently lost a systems administrator, leaving seven people to manage about 60TB each.

"It's a complex environment, and I have to make it easier to manage because I'm not going to be able to hire more people," Clarke said.

"The comment I heard from a vendor yesterday was distressing," said Kevin McNamara, a senior enterprise architect at Motorola Inc., during the End User Council's discussion about the SMI-S interface. "They're still going to work through API agreements with various vendors, which would lead one to believe there's more work needed on that spec." **46118**

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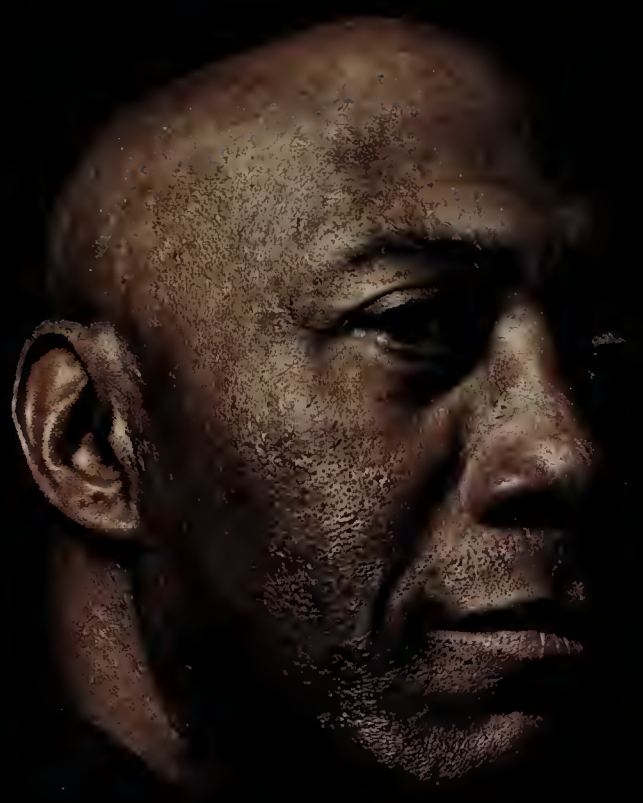

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BRIEFS

Unisys Says CEO Plans to Step Down

Unisys Corp. announced that top executive Lawrence Weinbach has given up responsibility for day-to-day operations and will step down as CEO in January. Joseph McGrath, who had been in charge of IT services, was named president and chief operating officer. Unisys also gave George Gazerwitz, the head of its systems division, the additional title of vice chairman. Weinbach plans to remain as chairman until January 2006.

JBoss Drops Rival Event to JavaOne

The JBoss Group LLC, which offers open-source application server software, is discontinuing a user conference it held last year as a rival to Sun Microsystems Inc.'s JavaOne event. Atlanta-based JBoss said it will take part in this year's JavaOne, which is scheduled to start June 28 in San Francisco. JBoss and Sun settled a dispute over Java certification last November.

IBM Agrees to Buy Indian Outsourcer

IBM said it has agreed to buy Daksh eServices Pvt., a Gurgaon, India-based outsourcer that offers technical support, call center and back-office business services. Daksh, which has about 6,000 employees, will become part of IBM's business consulting services unit. IBM didn't disclose the purchase price.

Short Takes

The INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS asked a federal judge in California to dismiss six of the seven claims made by VERISIGN INC. in a lawsuit filed in February. . . . San Mateo, Calif.-based KEYNOTE [illegible] has bought NetRaker Corp., a Mountain View, Calif., vendor of tools for gathering feedback about Web sites.

Continued from page 1

Vendors

group conference here.

Vendors still "steer the users to their vision," said James Rodgers, a Lyndhurst, N.J.-based data center manager for the Memorial Sloan-Kettering Cancer Center. He added that he has seen little change in how vendors operate.

But the downturn in IT spending over the past several years has given users a little more power, others argued.

"I think vendors are listening more, and they have to listen more, simply to survive," said Don Tissell, server facilities manager at Frito-Lay Inc. in Plano, Texas.

Kent Howell, manager of computer operations at Illinois Power Co. in Decatur, said he believes that economic conditions and expanding technology choices are empowering users.

For instance, Howell said he recently dropped some mainframe tool vendors that had "predatory pricing" practices. "There are competitors out there willing to cut deals to get their foot in the door. And we're not opposed to taking advantage of those opportunities," even if it means giving up functionality, he added.

Sun is in the eye of that particular storm, with its Unix servers facing growing competition from low-cost, Intel-based servers running Linux. On the same day it announced its agreement with Microsoft, Sun posted a quarterly net loss and said it was cutting its workforce by 3,300 employees.

Sun officials said the specifics of how users will benefit from promised interoperability improvements haven't been formulated. "We have yet to even put the liaison teams together to go meet and talk about the next steps," said John Loiacono, who replaced Jonathan Schwartz as head of Sun's software division. Schwartz's promotion to president and chief operating officer was made public when Sun announced the Microsoft accord.

But Pat Ridder, manager of computer operations at Maricopa Integrated Health System, a regional health care provider in Phoenix, said he believes users will see some clear benefits in the form of lower maintenance costs.

> **"They have a long way to go to show that they have our best interests at heart.**
>
> **KEN LAMBERT,** MANAGER OF SYSTEM SOFTWARE, ASSOCIATED THIRD PARTY ADMINISTRATORS INC.

"Sun is to midrange hardware what Microsoft is to software: Sun makes some of the best hardware around," said Ridder. But, he added, server software maintenance is costly.

If the two companies "are really looking at more interoperability between their hardware," Ridder said, the result will be a larger pool of people with skills to address issues on both platforms, potentially lowering maintenance costs.

Users remain divided on the likelihood that the Sun-Microsoft accord will prompt other vendors to form interoperability agreements.

"Unfortunately, a lot of vendors haven't gotten into the interoperability trend," said Dennis Reid, operations manager at Time Customer Service Inc., the Tampa, Fla.-based order fulfillment center for publisher Time Inc.

But the demand of interoperability is growing as enterprises improve integration across business units and supply chains, develop Web services and consider technologies such as grid computing.

"Customers are not going to tolerate this noncommunication between vendors," said Barbara McMullen, director of the Institute for Data Center Professionals at Marist College in Poughkeepsie, N.Y.

One thing is clear: Users who spoke with *Computerworld* last week said they won't be convinced of the sincerity of Sun and Microsoft until they see tangible benefits.

"Do I expect anything great and wonderful out of their newfound friendship? No," said Ken Lambert, manager of system software at Associated Third Party Administrators Inc., a financial management firm in Alameda, Calif. "I think they have a long way to go to show that they have our best interests at heart. If they are about to prove me wrong, that would be wonderful." **46114**

MORE ONLINE

Microsoft can buy off Sun legal threats for 10 years:

QuickLink 46132
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Identity Management Will Benefit From Accord, Exec Says

The interoperability agreement between Sun Microsystems and Microsoft will make it easier and cheaper for companies to manage user identities across both vendors' environments, according to John Fowler, Sun's chief technology officer.

But he didn't say when users can expect to see those benefits or specifically how the company's products must be tweaked to enable such interoperability.

FOWLER says Sun has already taken steps to promote interoperability.

"We are very interested in seeing these Microsoft and Sun environments play together," said Eric Greenwade, a research fellow at the Idaho National Engineering and Environmental Laboratory in Idaho Falls. The lab is setting up a facility for high-performance computing that will run a variety of Unix systems, including Sun's Solaris. It's looking for an efficient way to exchange and manage identity information among these systems and its existing Windows-based office systems.

"Hopefully this agreement means that some mechanisms will be created such that we don't have two completely disjointed environments," Greenwade said.

Brian Conlon, CIO at Howrey Simon Arnold & White LLP in Washington, said his law firm has coded a special software layer for transporting identity information between Active Directory and Sun's directory environment. "Anything by way of integration between the two is going to be a great first step," Conlon said, adding that he really wants the ability to maintain a single user database for authorizing and provisioning access to applications in both environments.

Sun's agreement with Microsoft will accelerate the company's efforts to foster better interaction between the two technology environments, Fowler said, noting that Sun has already taken several steps to promote interoperability. For instance, Sun's Java System Directory Server supports password and attribute synchronization with Microsoft's Active Directory. Users' passwords stored in either Active Directory or Directory Server can be synchronized both ways, making for easier administration, he said.

Sun's purchase of Austin-based identity-management software vendor WaveSet Technologies Inc. late last year [QuickLink 42934] is another step toward integration. WaveSet's technology in combination with Sun's identity management software will give users a way to automate and centrally manage identity and application provisioning functions across a wide range of operating systems, Fowler said.

Users can expect more work to enable single sign-on and to bring the Liberty Alliance Project and WS-Federation Web services specifications closer, Fowler said, without elaborating.

– Jaikumar Vijayan

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MONDAY, MAY 24

12:00pm	Pre-Conference Golf Outing
1:30pm	Concurrent Industry Pipelines and Technology Workshop: 1:30pm – Industry Pipelines (8 sessions, 30 minutes in length) 3:30pm – Technology Workshop (90 minutes in length)
7:00pm	Welcome Reception

TUESDAY, MAY 25

7:00am	Buffet Breakfast
8:00am	Welcome and Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – Noon	General Sessions
Noon	Luncheon and Special Presentation
1:30pm – 3:30pm	General Sessions
3:30pm – 5:00pm	Concurrent Breakout Sessions
5:30pm	Solutions Showcase & Expo with Buffet Dinner

WEDNESDAY, MAY 26

7:00am	Buffet Breakfast
8:00am	Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – 12:15pm	General Sessions
12:15pm	Solutions Showcase & Expo with Buffet Lunch
1:30pm – 3:45pm	General Sessions
3:45pm – 5:00pm	Technology "Spotlight" - Innovation on Stage
6:00pm	Gala Evening

THURSDAY, MAY 27

7:30am	Buffet Breakfast
8:30am	Workshops
11:30am	Conference Concludes

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- ❑ Food Industry
- ❑ Government / Military
- ❑ Healthcare / Medical Services
- ❑ Travel /Hospitality / Recreation
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- ❑ Other

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- ❑ VP/GM/Director
- ❑ IS/IT Director/Manager
- ❑ Other IS/IT Department Manager/Supervisor
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- ❑ Consultant (Internal) or Other

Number of employees in your entire organization (ALL locations):
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- ❑ 5,000 - 9,999
- ❑ 1,000 - 4,999
- ❑ 500 - 999
- ❑ Under 500

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- ❑ $500 Million - $999 Million
- ❑ $100 Million - $499 Million
- ❑ Under $100 Million

Your organization's annual IT/IS budget for all IT/IS products:
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- ❑ $100 Million - $499 Million
- ❑ $10 Million - $99 Million
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- ❑ Under $1 Million

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8:15am to 8:45am	**Off to See the Data Wizard: Reporting from the Yellow Brick Road** Maryfran Johnson, Editor in Chief, Computerworld
8:45am to 9:15am	**User Case Study**
9:15am to 9:45am	**Business Intelligence in Action at NASD** Martin Colburn, EVP and CTO, National Association of Securities Dealers
9:45am to 10:15am	Refreshment and Networking Break
10:15am to 10:45am	**Evolving the Enterprise: Leveraging Information for Competitive Gain** Jim Davis, Senior Vice President, SAS
10:45am to 11:15am	**Industry Analyst Perspective**
11:15am to noon	**Panel Discussion: Creating the Transparent Organization: New Roles for Business Intelligence with Corporate Customers, Suppliers and Government Regulators** Moderator: Julia King, National Correspondent, Computerworld
Noon	Program Concludes

Selected speakers include:

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Editor in Chief
Computerworld

Martin Colburn
EVP and CTO
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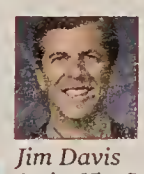

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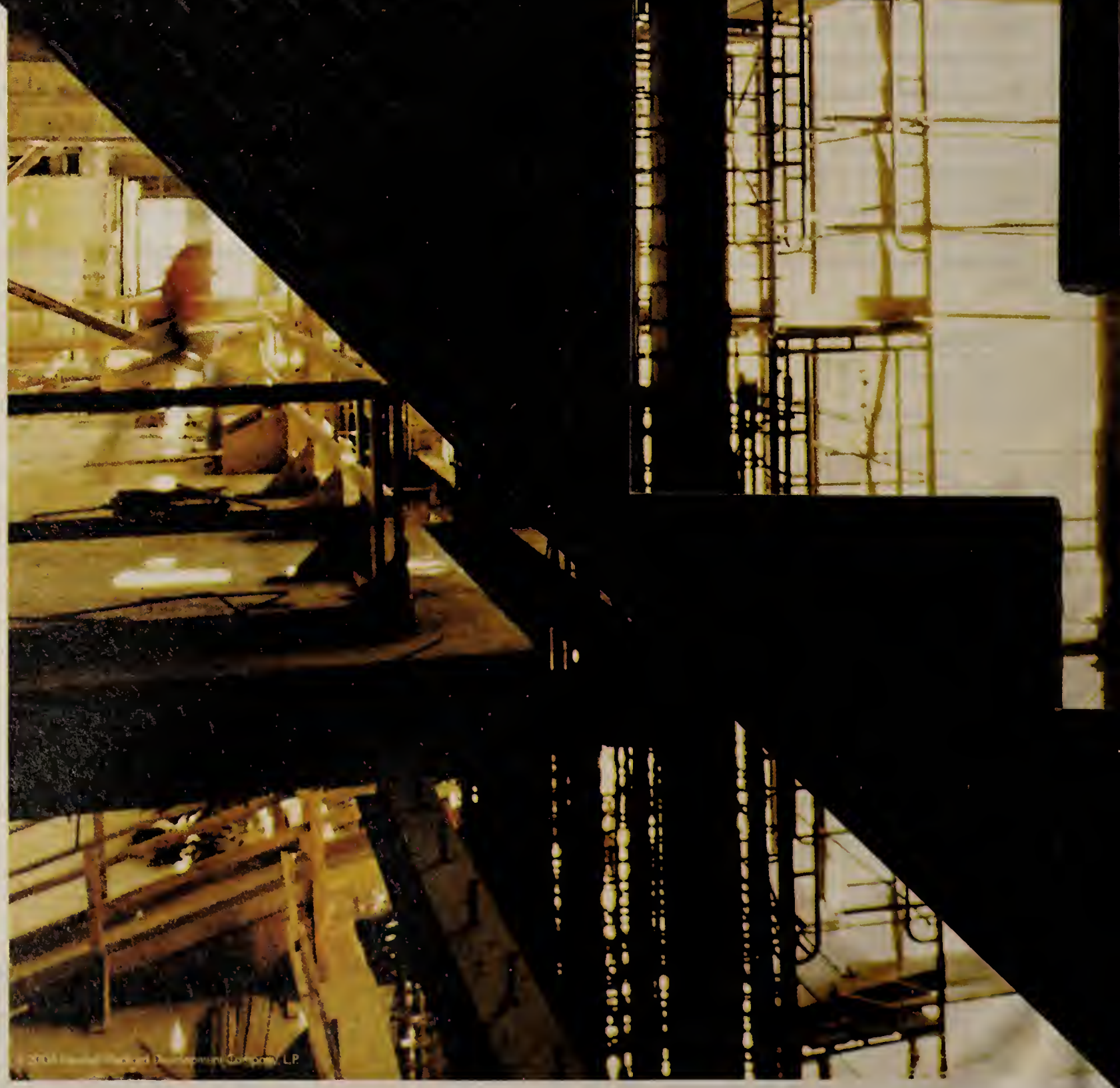

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MARYFRAN JOHNSON

Customers in Charge

NO QUESTION ABOUT IT, this one belongs to you.

IT customers were the driving force, the ultimate bottom line, the wake-up-to-reality call behind the historic Sun-Microsoft accord announced the morning of April 2 [QuickLink 45970]. Scott McNealy and Steve Ballmer spoke softly but carried a big peace treaty with your names on it — wrapping up years of angry rhetoric and a fierce, often counterproductive rivalry that bedeviled enterprise IT operations with interoperability headaches and unnecessary expense.

MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at **maryfran_johnson@computerworld.com.**

"We're in a new era of customer-driven competition," Ballmer said.

McNealy agreed, "The customer is in charge."

No kidding. But were you impressed by this dramatically staged ending to the industry's most legendary feud? Well, not exactly.

"I want to see something concrete and real," said Daniel Morreale, CIO at the North Bronx Healthcare Network in New York, voicing what was no doubt the skeptical reaction of many of his peers across the nation.

Tony Scott, chief technology officer at General Motors, was quoted in *The Wall Street Journal* about his pointed advice to both CEOs to get their acts together. He's had to educate the pair on "the real pain that customers go through when you have multiple incompatible standards and technologies."

That message seems to have finally struck its target. McNealy and Ballmer, usually glib and cheerfully combative with the press, were subdued and serious at the announcement of their truce. Once the initial element of surprise wears off, they'll have a lot to prove. As technology buyers have gained more power over suppliers, they've lost patience with petty product warfare.

"It's good that there is going to be an era of cooperation, but what does it really mean to people?" asked Satish Ajmani, CIO of the Santa Clara County government in Sun's home state of California. "What are they going to deliver that's different from what we have today, and will it result in an overall cost reduction for us?"

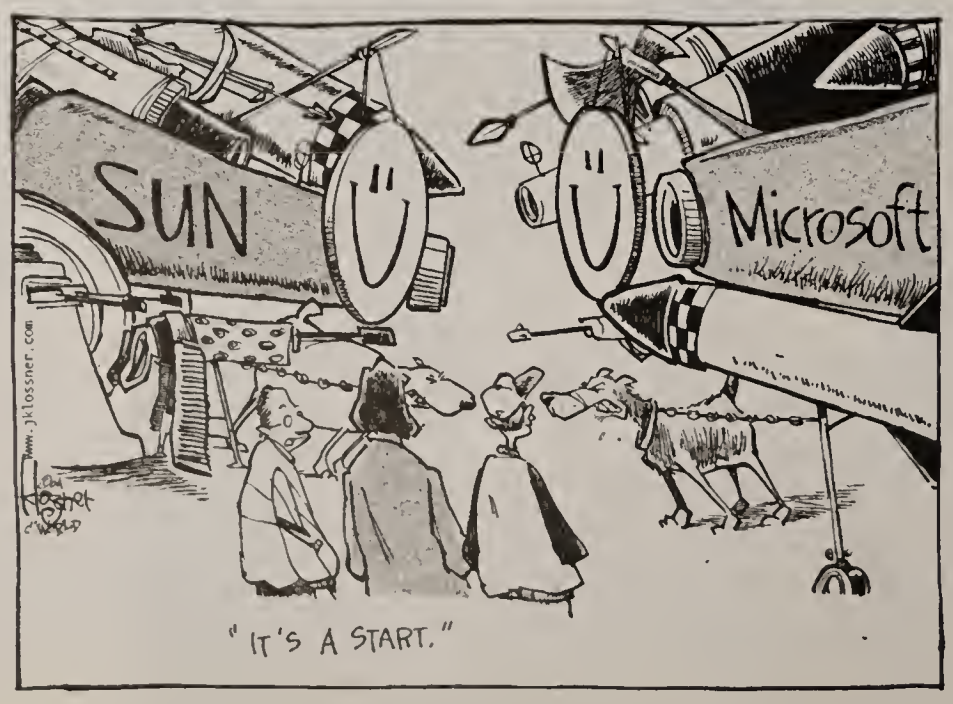
Answering those questions had better be the primary focus of both vendors as they move into détente. Microsoft will pay its longtime rival $1.6 billion to settle Sun's antitrust suit and resolve several patent claims. Far more meaningful to users, however, is the potential of the 10-year commitment to collaborate on technology and to license each other's intellectual property.

Customers will be waiting — and not all that patiently — to see the concrete follow-through on those lofty assurances of improvements in server integration, easier interoperability between products such as Java and .Net, and seamless support of each other's protocols.

Beyond the customer issues, some significant external factors also took a turn behind the wheel of this deal.

Both companies are worried about the rise of Linux and the ever-present threat of IBM's enterprise dominance. Sun has suffered through years of financial setbacks and faces yet another quarterly loss and an upcoming layoff of 3,300 employees. Microsoft has spent tens of millions of dollars in courtroom battles over antitrust issues, and its stinging defeat last month by the European Commission moved its legal troubles as a monopolist onto the world stage.

What both vendors now face is a journey just as arduous as the year of secret talks that brought them this far. They must now mutate 15 years of competitive DNA, convince thousands of startled employees to embrace the enemy and finally readjust to a new reality. The one where customers are in charge. **46068**



PIMM FOX

ISPs Have to Step Up on Security

LIKE THE GASOLINE you put in your car, the services that Internet service providers offer are basic commodities. Sure, the ISPs make some efforts to differentiate themselves: Juno offers free e-mail addresses, Road Runner has lots of available Web space, and America Online will give you free technical help lines. All for similar monthly fees.

But where's the security? Where are the firewalls?

Internet service providers do all they can to get listed on Google and Yahoo, and they dump bundles on advertising and marketing.

But try to find information from them about their security features, and you'll grow old and weary.

PIMM FOX is a London-based journalist. Contact him at **pimmfox@pacbell.net.**

And this isn't just about fighting the spam that clogs your e-mail pipes.

This is about hackers.

While AT&T's Worldnet service and its brethren are enriching our world with personal information management features, they're also enriching the arsenal of weapons at the disposal of hackers. Hackers don't need big corporate servers or complicated virus programs; they've got unwitting accomplices who have been fed a steady diet of all-you-can-eat, always-on, high-speed Internet connections.

The horror of horrors is an open Digital Subscriber Line or cable connection with no firewall protection. No, I take that back. The real horror is a wireless configuration with DSL or cable. It's the unlocked door a hacker is looking for as he's being driven around your neighborhood (presumably while eating pizza in the back seat) seeking computers to break into while everyone is asleep.

By gaining access to a home user's bandwidth, a hacker can launch worm attacks that then spread throughout the network.

Taking advantage of these back doors, a hacker can attack with impunity. After all, it's the home user who is going to be pegged as the offender.

And there's worse in store than having the PC in your den used to launch attacks. The FBI says identity theft is the most pervasive and fastest-growing form of nonviolent crime.

Once someone has access to the personal information stored inside a computer, it's as easy to replicate an ID as it is to say "Keanu Reeves."

Hackers are going to be defeated only if service providers make security the top priority in their offerings and their sales pitches. It's time they tried to differentiate their services by boasting about their security features and their spam filters.

Unfortunately, they're too busy waging price wars against one another and selling unimportant services and pop-up windows. Saving a few pennies on Internet service won't matter one bit when a hacker snags personal tax data and stored credit card numbers, or when e-mail address books become spam generators.

Internet service providers might whine that people won't pay for hefty security features or spam filtering. But would any of them care to be differentiated as the first ISP to be slapped with a nice fat lawsuit accusing it of aiding and abetting identity theft?

That ought to make them feel special. **45889**

DAN GILLMOR

It's Time to Take Privacy Seriously

DO YOU KNOW where your customers' data is tonight? And what you're doing with it?

Data privacy woes are rampant. Every week, we hear about another debacle or encroachment on what should be a private sphere. And regular folks are getting angrier by the day.

IT, albeit reluctantly, is at the heart of the problem. But IT must also insist on being part of the solution.

Missteps are increasingly easier to make. One reason is the offshoring trend. Last year, for example, a medical transcriptionist in Pakistan threatened to release U.S. patients' data if his demands for higher payments weren't met. The U.S.-based company that farmed out the work later told the *San Francisco Chronicle* that its business had been hit hard by fallout from the disclosure — perhaps a fitting outcome.

DAN GILLMOR is technology columnist at the *San Jose Mercury News*. Contact him at **dgillmor@sjmercury.com.**

Although it's not clear how much private data is now being sent overseas, there's no doubt that the amount is growing. And companies that don't exert the strongest controls over the information they send offshore are opening themselves up not just to financial trouble but also to a massive and well-deserved backlash.

IT departments can't control a transcriptionist making demands halfway around the world. But they can avoid preventable stupidity.

As *The Washington Post* reported in February, it's astonishingly easy to do a search on Google and other popular search engines and find Social Security numbers and other data that companies, universities and even government agencies have put on unprotected servers. Google isn't responsible for preventing these lapses; the careless data managers are.

Plugging such holes is simple compared with fixing some other security risks. "Phishing" attacks — where unsuspecting consumers fork over credit card numbers and other personal information on bogus Web sites that look like the real thing — are all too common. Companies can't stop the creation of rogue sites, but they can communicate better with customers about how to avoid being victims.

A chorus of complaints met last year's California law mandating disclosure to consumers of serious breaches of corporate databases. But I maintain that the law did businesses a favor by forcing them to work harder to keep data secure and encouraging them to set up crisis plans in the event that hackers get through their firewalls.

It's routine to assume that garnering more data is better. The ability to store everything under the sun is growing along with disk space. If your company sells widgets that end up in consumers' homes and you plan to put radio frequency identification tags on these goods to help make the supply chain more efficient, that's great. But you should be planning now to make sure the tags stop working when they leave the store, because people like me will shout from the rooftops if you don't.

No matter how much data you collect, IT staffs should convince CIOs — who in turn should convince CEOs — that it's far better to build more protection into databases early than to attempt to bolt it on later. And they should convince them to support stronger pro-privacy laws while they're at it.

I can promise this: As identity theft soars, personal medical histories escape and cause all kinds of trouble, and privacy violations become more and more horrific, the public will start demanding some scalps. **45993**

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READERS' LETTERS

Offshoring Rhetoric Is Disingenuous

TIMES SURE HAVE changed. It was just a few years ago that IT salaries were skyrocketing and employers couldn't find enough skilled IT workers. We computer professionals were enjoying growing salaries and the ability to choose among multiple job offers.

Today, we're faced with a flood of jobs moving overseas and an uncertain professional future. It is disingenuous, however, to use terms such as *greedy* and *profiteers* to describe companies that outsource, as many *Computerworld* readers have done in recent letters. I would argue that companies are making calculated business decisions, just as we were several years ago when we were accepting jobs from the highest bidder. I don't recall similar derogatory terms being directed toward us when the job market was in our favor.

The outsourcing phenomenon is indeed troubling and lacks any easy resolution. Labeling it a result of greed and callousness by management, however, is simplistic and misinformed. It is understandable that we IT professionals feel strongly about this issue, but let's table the inflammatory rhetoric as we search for a solution.

Scott Corley
Mountlake Terrace, Wash.

It Pays to Look Before You Lease

NORBERT J. KUBILUS' article "The Case for IT Leasing" [QuickLink 45412] misses the mark on at least two important considerations. For one, unless the lease is for a very short term (less than two years), it's unlikely that the cost of leasing will be 30% to 60% less than a financed purchase over the same time frame. After years of losing their shirts, leasing companies have gotten technology-savvy and recognize the quickly declining market value of equipment.

But even more important, when making a lease-or-buy decision, one needs to consider what will happen at the end of a lease. Generally, you're left with two options, both of which could cause you some surprises: return the equipment (requiring you to start again and disrupt operations) or buy at market value (leaving you, at best, at the same point you would have been had you just bought and financed). Also, your point of deciding what to do is fixed in time (the specific date the lease expires), whereas if you had made a financed purchase, you could decide at any point to get out of it.

Bottom line: There are some situations where leasing may make sense, but look very carefully before jumping in.

Sonney Taragin
CIO, Williams Scotsman Inc., Baltimore, sonney.taragin@willscot.com

EC's Microsoft Fine Is More Like a Tariff

I'M SURE we could find some excuse to levy a couple of $100 million fines on Italian clothes, French wines or German automobiles ["Microsoft: $610M EU Fine Too Big," QuickLink 45663]. A huge fine like the one the European Commission has levied against Microsoft sounds like a tariff, and the trouble with this kind of thing is that it sets off trade wars and other kinds of reprisals. The world has been down that path before; it never comes out positively.

It's time for the U.S. State Department to have some quiet, secret talks with those European folks. And if the discussions don't work, then we should fine the Italians, the Dutch, the Germans, etc., until we get the point across. Then everybody drops everything, we all shake hands again, and we get on with world business.

Richard Power
Attorney at law, Shingle Springs, Calif.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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Building a Model Infrastructure
Advanced modeling tools can help users accurately forecast what kind and quantity of IT equipment to buy and avoid overprovisioning. **Page 26**

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A 64-bit microprocessor can address far more memory and handle more processes simultaneously than a CPU that processes only 32 bits at a time. **Page 28**

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Building a Defense Against Complaints
Defending the company against complaints from the public takes nearly as much effort as protecting it from cyberattacks, Vince Tuesday discovers. **Page 30**

TEARING DOWN IM BARRIERS

JAMES STEINBERG

More companies are adopting enterprise instant messaging systems, but interoperability issues often limit their reach to external customers and partners. **BY KYM GILHOOLY**

FOR BUSINESSES eager to exploit the efficiencies of real-time communications, instant messaging can be a many-splendored thing. The problem is that in most corporations, it's also a many-vendored thing. Witness Rochester Public Utilities (RPU). Although the Rochester, Minn.-based municipal utility has deployed an enterprise-class IM system based on Microsoft Corp.'s Live Communication Server, employees still use public IM networks such as those of MSN Messenger and AOL Instant Messenger (AIM).

Though it would simplify management and remove interoperability hurdles to standardize on one IM system, RPU can't shut down access to public networks, because some employees use them to maintain relationships with corporate customers. For instance, RPU uses America Online Inc.'s AIM to communicate with one of its biggest customers, IBM's Rochester facility. The IBM office uses the IM product from IBM's Lotus subsidiary internally but has developed client-level interoperability between Lotus Instant Messenger and AIM (although, according to IBM, new releases of Lotus IM won't provide such interoperability).

"We had rogue IM users using Port 80 to communicate externally, but most of these were legitimately communicating with vendors and customers," says Matt Bushman, an IT analyst at RPU. "We realized that IM was going to be the preferred method of instantaneous interpersonal communication, so we needed to take a proactive approach to getting it all secured."

RPU's multiclient challenges should sound familiar to organizations that have embraced IM. IT administrators would like to deploy a single system that talks to other IM systems using industry-standard protocols, as e-mail does, but that's not an option. More than 80% of IM use today is still through public networks such as AOL, MSN and Yahoo, and each uses proprietary protocols that don't allow users of one system to talk with users on another, according to analysts.

Increasingly, IT departments are addressing internal interoperability and management by deploying an enterprise IM platform and extending it to authorized users beyond the firewall using a secure log-in.

At Houston-based energy broker Amerex Group of Companies, for instance, staffers on the natural-gas side of the business use Yahoo to work with trading partners, while those on the electrical power side use AIM. Amerex deployed Yahoo Inc.'s Business Messenger to streamline internal communications for everyone and external communications for Yahoo users, but those established on AIM still need to use that service for trading.

"Even though we've brought in Yahoo Business Messenger, I can't force the guys using AOL to switch because they can't force their customers to switch. Once a particular IM client gets entrenched, it's hard to get it out," says Amerex CIO Brian Trudeau.

Competing Standards

Although vendor investments in the proprietary protocols that characterize consumer IM networks hinder interoperability, there has been significant movement toward setting standards. The protocols vying for standardization are the Extensible Messaging and

PRESENCE AWARENESS: IM'S KILLER APP

THE ABILITY to communicate instantaneously through IM is a boon to some businesses, but experts contend that the technology's "killer app" lies in its integration with enterprise applications and business processes. By extending the presence-awareness feature found in IM client buddy lists to portals and corporate directories, companies can realize true business-context communications.

"In IM communications, presence [in business applications] is where it's at, without a doubt," says Robert Mahowald, an analyst at market research firm IDC. He points to Microsoft's Live Communication Server and Office 2003. Applications in the company's suite are presence-aware, so users can initiate conferencing sessions to collaborate on documents. Enterprise IM vendors and others have released tools to let developers IM-enable applications.

"With its presence capabilities, [IM] has the potential to humanize electronic transactions by bringing immediacy and intimacy to the process," says Wilson D'Souza, a vice president at Merrill Lynch. Not only can businesses leverage IM indicators within applications, processes and workflows; they can also tie them into corporate directory profiles to see, for example, if it's better to contact someone's mobile device on a given day, he says.

According to Matt Bushman, an IT analyst at RPU, the utility expects to see significant productivity and collaboration benefits from the presence awareness enabled within its Office 2003 and SharePoint portal. "There's awareness in meeting and document workspaces, so people can meet in a workspace and work collaboratively, rather than just throw a document with read-only status onto the network," he says.

As companies increasingly look to leverage presence within business applications, the call for true interoperability among IM clients will get more deafening, says Michael Osterman, president of Osterman Research Inc. in Black Diamond, Wash.

"It all goes back to interoperability, particularly for businesses extending IM to customers," he says. "They don't want to have to support four different systems just to communicate with clients."

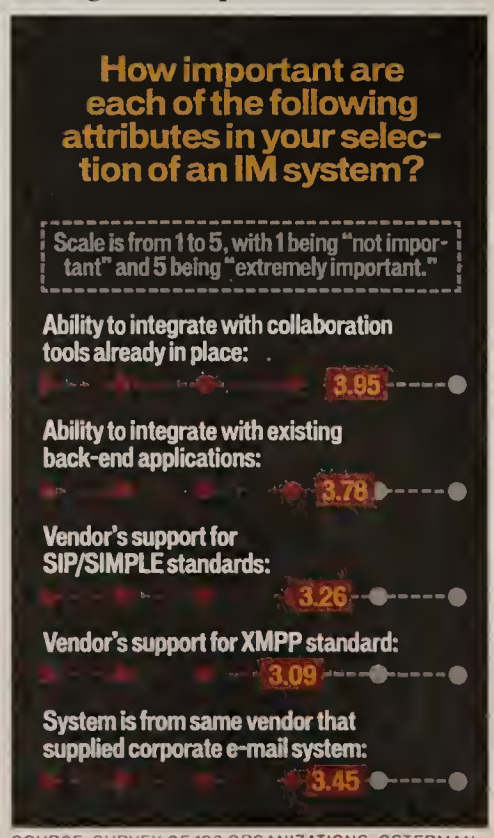
– Kym Gilhooly

Prescnce Protocol (XMPP) and the Session Initiation Protocol for Instant Messaging and Presence Leveraging Extensions (SIMPLE).

XMPP is an open-source, XML-based standard developed by the Jabber Software Foundation that also serves as the underlying architecture for Denver-based Jabber Inc.'s Jabber XCP enterprise IM product. SIMPLE is an extension of SIP that's promoted by big guns such as Microsoft and IBM. Earlier this year, the Internet Engineering Task Force approved the XMPP-Core and XMPP-IM specifications. The group is working on approval of SIMPLE.

"These standards are becoming more complementary, and both will see significant adoption. XMPP just got approval as a standard by the IETF, and that gives them a bit more running room and credibility," says Paul Ritter, an analyst at The Yankee Group in Boston. "But it's not a zero-sum game, and many companies are realizing that they need solutions that are SIMPLE-based as well as open-source-standards-based solutions."

"[The parties] want the protocols they've invested in to be the leader in delivering more traffic than the other, but [XMPP and SIMPLE] are also complementary," says Lisa Dusseault, the IETF XMPP working group chairman. SIMPLE boasts strengths for clients that need to support a full suite of communications tools, such as video-conferencing and whiteboarding, whereas XMPP has focused more on routing between processes as well as



SOURCE: SURVEY OF 193 ORGANIZATIONS, OSTERMAN RESEARCH INC., BLACK DIAMOND, WASH., 2004

between computers, she says.

"A lot of headway has been made on the interoperability front in the last 18 months," says Wilson D'Souza, vice president of collaboration and directory services at New York-based Merrill Lynch & Co., a founding member of the Financial Services Instant Messaging Association (FIMA). "Client demand has pushed vendors to define and focus on a set of protocols."

FIMA was created to raise awareness of IM as a tool for financial services firms, which have been at the forefront of IM adoption. "FIMA isn't about what protocol we use. Our goal is interoperability, low-cost, high-quality products and a common way of provisioning services," says D'Souza.

Managing Diversity

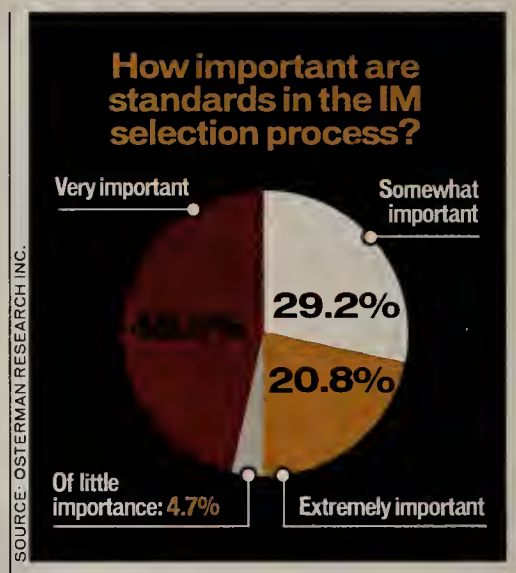
In the absence of true interoperability, users are finding ways to manage the need for multiple services. Businesses committed to IM are concentrating on securing communications, meeting regulatory compliance for message logging and archiving, and managing user identities across a range of clients.

"Last year was a period of rapid growth of IM use in the enterprise, stemming from employees using consumer versions of MSN, AOL and Yahoo," says Ritter. "This year, IT managers are realizing that they need to take steps to manage and control that use of IM." To do so, some companies deploy agnostic IM infrastructure management systems from vendors such as Akonix Systems Inc., FaceTime Communications Inc. and IMlogic Inc. Such tools enable centralized management of IM traffic exchanged by multiple public clients.

Other companies go with an enterprise-class IM system and restrict access to public networks, allowing authorized external users only through a secure log-in. Still others do both, deploying an enterprise IM system for authenticated users and an infrastructure management system to handle use of public clients.

In addition to its internal use of Live Communication Server, which links employees through Active Directory, RPU has deployed Akonix's L7 Enterprise and Enforcer products to secure AIM and MSN use and manage user names.

Concern about regulatory compliance primarily drove Thomas Weisel Partners LLC's decision to purchase IM Auditor from FaceTime in Foster City, Calif. San Francisco-based Thomas Weisel is a merchant banking firm; its salespeople use a mix of IM



SOURCE: OSTERMAN RESEARCH INC.

clients to connect with institutional investors. IM Auditor logs all IM conversations and sends them to the company's supervision and archiving product, iLumin Software Services Inc.'s Assentor Enterprise, says Chief Technology Officer Beth Cannon.

"[IM Auditor] works like a proxy server, so every desktop that wants to make a connection to AOL, MSN or Yahoo has to go through that server. That way it can record all the conversations that go in and out," she says.

Washington-based law firm Shaw Pittman LLP, meanwhile, has avoided some of the control problems faced by other organizations because it deployed Lotus Instant Messenger before employees started downloading IM clients on an ad hoc basis.

"We've been using [Lotus IM] for more than three years, so we got to IM before many [public clients] were brought in," says CIO Nicole Minnick. She says the firm's 400 attorneys, located in Washington, New York, Los Angeles and London, quickly took to IM, as well as to the integrated document-sharing, online-meeting and whiteboarding features within Shaw Pittman's Lotus Notes and Domino applications.

Amerex's Trudeau says he's grateful that he has tools such as IMlogic's IM management products to control the use of public clients. But, like most IT executives, he just wants interoperability problems resolved so providers can focus on enhancing IM capabilities.

"People really need a standard for interoperable clients," he says. "The messaging itself has become a commodity. If [vendors] would focus on getting that infrastructure in place, they could look toward adding services." **45614**

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JASON SCHNEIDER

Building a MODEL INFRASTRUCTURE

Capacity planning tools can forecast IT equipment needs with a high degree of accuracy, but it takes more than historical performance trending to do the job right. By Drew Robb

AFTER SEVERAL YEARS of making do with existing IT infrastructures, many companies are once again considering major purchases. But there's a huge difference between the buying process today and that of several years ago. "In the '90s, it was almost like having a free checkbook to just go out and buy what you need," says George Lewandowski, capacity planning supervisor at Metavante Corp., a Milwaukee-based company that sells IT products and services to financial institutions. "Organizations are finally starting to say that if they are going to spend money, they want to have a good ROI and TCO, not 50% utilization."

To achieve this, IT planners first must ensure that existing infrastructure elements are used to the fullest extent without lowering service levels. Then they must justify expenditures for new IT hardware by accurately predicting future needs.

CAPACITY PLANNING TOOLS

Capacity planning processes and tools are essential for accurate planning. Lewandowski uses TeamQuest Corp.'s TeamQuest Model software to plan capacity needs for about 1,000 Windows and Unix servers. By using a mix of trending analysis and modeling to properly assign resources to tasks, he says he has driven server utilization up without affecting service-level agreements. "With proper capacity planning we can drive utilization into the 80% to 90% range and really start getting our money's worth out of the equipment," Lewandowski says. The tools available can produce very accurate results, he says, "provided you use them in a scientific manner."

Formula for Excess

Capacity planning is more than an application. Successful projects require a combination of skills, organizational processes and tools in order to ensure that a company has enough infrastructure to meet projected needs without overspending. Yet many planners take a more cautious route, buying excess capacity in order to ensure that there is never a shortage. "Most organizations use the formula CP = BMH: capacity planning equals 'buy more hardware,' " says Milind Govekar, an analyst at Gartner Inc. "True capacity planning is a process that requires a high level of IT maturity."

Capacity planning starts with performance monitoring tools, since it's impossible to tell how much capacity you need without knowing how much you already have and how it's used. In the simplest projects, planners take basic performance data and graph the trends. Administrators view the growth in usage rates, estimate when existing capacity will run out and schedule hardware purchases to meet demand.

Almost any performance monitoring software can do this. But many packages that tout capacity planning capabilities don't do much more than track historical performance, and a performance trend isn't the best indicator of future requirements — though in some cases it may be all you need, analysts say. "Trending . . . doesn't work as well as most of its proponents imagine. However, it does enable reasonably accurate quick-and-dirty analyses to take place, with a good return on investment for this work," says Andy Bolton, CEO of Capacitas Ltd., a London-based capacity planning consultancy.

More advanced capacity planning software does more than track historical trends. It also lets IT planners create analytic models of different parts of the infrastructure to see how changes in hardware, applications or users will affect performance levels.

"If the project that is under way has a

large impact, or large potential impact, it is essential to use modeling, since that will give you the best insight," says Glenn O'Donnell, an analyst at Meta Group Inc. in Stamford, Conn. But, he adds, "for minor projects, it is best to use trending, since it is too time-consuming to model everything."

Either way, analysts say the use of capacity planning tools is growing and taking on greater importance in IT operations. A recent Meta Group study of critical management issues put capacity management and planning at the top of the list for large enterprises.

But while the use of these tools is increasing, administrators aren't necessarily using them to predict future needs. Mike Ehr, research director at Enterprise Management Associates Inc. in Boulder, Colo., says organizations often use the tools to solve current problems connected with server consolidation and overprovisioning.

A Different Model

Capacity planning tools that perform modeling rather than just trending fall into three major categories. Mainframe-based tools come from traditional mainframe management vendors. Examples include Patrol Perform & Predict from Houston-based BMC Software Inc. and MXG from Merrill Consultants in Dallas.

> "Most organizations use the formula CP = BMH: capacity planning equals buy more hardware."
>
> **MILIND GOVEKAR,** ANALYST, GARTNER INC.

In the server-based tools arena, the leading stand-alone vendor is Clear Lake, Iowa-based TeamQuest, but server management tools from vendors such as BMC and SAS Institute Inc. in Cary, N.C., also include server modeling features.

Network-based tools, such as those from Opnet Technologies Inc. in Bethesda, Md., focus on network planning. In addition, enterprise network management suites from Hewlett-Packard Co., Computer Associates International Inc. and IBM also include network capacity planning.

The tools in these categories overlap functionally, but generally each of the products performs best in its niche and offers lesser capabilities in the others. As a result, companies tend to use different tools for different parts of their infrastructures.

Boris Gdalevich, capacity planning manager at Quest Diagnostics Inc., a medical testing and diagnostics firm in Teterboro, N.J., uses BMC's Perform & Predict to model his servers while the network operations staff uses different tools. Sprint Corp. uses TeamQuest to model its midrange servers and PerfMan software from Bethlehem, Pa.-based The Information Systems Manager Inc. (IMS) to model the CPUs on its IBM z900 series mainframes.

Although using a single planning tool throughout the enterprise is desirable, analysts say it's best to use different tools for different areas because of the limitations of today's tools. Most companies have separate teams managing mainframes, servers and the network anyway, so each team should pick the tool that best suits its needs. Eventually, however, as companies move toward more dynamic, on-demand computing environments, everything will need to be modeled together.

"When enabled with automated provisioning and service-level management tools that detect changing needs and share the load on the fly, businesses should be able to reduce overall capital investment," says Mary Johnston Turner, vice president for enterprise strategies at Boston consulting firm Summit Strategies Inc. "I expect that in the future, capacity planning will be considered more a part of dynamic infrastructure provisioning and configuration/change management than as a stand-alone, application-specific activity."

Capacity planning tools are useful only if they produce accurate predictions. Fortunately, the tools are becoming more accurate. When Metavante ran one set of simulations using TeamQuest, the software predicted that the company would reach 80% utilization within two months. The actual number turned out to be 85%. The model also predicted that installing specified hardware would drop utilization to 65%. When Metavante put in that hardware and checked the actual utilization, the result was 66%. "We were very, very close," says Lewandowski.

Joel Allen, senior capacity planning manager at Sprint, says that the mainframe CPU models he has created using IMS's PerfMan have all yielded predictions that have come within 10% of the actual performance figures. Nevertheless, Allen says, "capacity planning is definitely more of an art than a science."

One reason is that accurate forecasts depend on getting people from different business units to give accurate and timely data on their future needs. Unlike trending, which makes predictions by reviewing historical performance data, modeling requires getting sales forecasts and other predictions from other parts of the organization and adding it to the model. It won't do the company any good to launch a big advertising campaign for its online services without having the bandwidth and server capacity to handle the projected increase in customers.

Jean-Pierre Garbani, an analyst at Forrester Research Inc. in Cambridge, Mass., agrees that capacity planning is "still a black art in many senses." No matter how sophisticated the analytics in the tools, the user still needs to have a thorough understanding of what parameters to model and then must interpret the data and ensure that it makes sense. Still, he doesn't advise trying to do sophisticated planning without using automated tools.

"If you are doing server consolidation or upgrading your operating system, even if you are very astute and skilled, you still need tools," he says. "Doing it by hand won't work." 45796

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Choosing a Tool
Five Questions to Ask

1. Does it model all the elements you need?
2. Does it pull information from all the management software you currently use, or do you also have to buy the capacity planning software vendor's performance monitoring module?
3. Does it work best with other hardware and software products from a particular vendor or is it truly vendor-agnostic?
4. Does it autodiscover the elements on your network and input their parameters into the model, or do you have to do this manually?
5. How much customization is possible?

Predicting Disaster

FOR MIKE KENNEDY, the value of a capacity planning tool lies in its ability to predict the effect of a discrete event on future needs. Kennedy, vice president of the infrastructure performance management group at J.P. Morgan Chase & Co.'s data center in Hicksville, N.Y., faced such an event when his company acquired a credit card portfolio from San Francisco-based Providian Financial Corp. in 2002.

Kennedy is in charge of anticipating capacity on the company's Cisco-based network, its call center system and some 1,000 midrange Unix/Windows/AS400 servers. He uses Opnet's IT Guru suite, which pulls data from CiscoWorks, HP OpenView, Mercury Interactive Corp.'s SiteScope and other management tools. The IT Guru software stores performance and configuration data in a virtual network environment so simulations can be run without re-creating the data each time.

KENNEDY

Kennedy put IT Guru to work modeling what would happen when an additional 3.5 million Providian credit card customers were suddenly dumped into J.P. Morgan's call center and production environment. Some effects were obvious; others were not. For example, the trunks leading to the voice-recognition units were inadequate to handle the increased traffic, and J.P. Morgan was able to avert a disaster before the Providian customers came online.

"If we didn't do that modeling, we would have had an outage. It would have cost us $1.2 million per day in losses," he says.

Kennedy now models all changes before they go into production. "Eliminating problems before they happen has a tremendous influence on the bottom line," he says.

– Drew Robb

64-Bit CPUs

BY RUSSELL KAY

NOWADAYS MOST computers use 32-bit processors (such as the Intel Pentium) running 32-bit operating systems (such as Windows XP, Mac OS, Unix or Linux). Some years back, desktop computers used 8-bit microprocessors (such as the Zilog Z80); then came 16-bit chips (the Intel 8086 and Motorola 68000). These bit numbers describe the length of the instruction word the CPU can handle in a single clock cycle. The next step in this evolution is the 64-bit CPU.

DEFINITION

A 64-bit microprocessor can process data and instructions in chunks of 64 bits during a single clock cycle, giving it the potential to address far more memory and handle more processes simultaneously than a CPU that processes only 32 bits at a time.

Who's Doing What?

Intel has been the microprocessor industry's 800-pound gorilla from the beginning. The company began 64-bit development in 1991, and the first systems with its 64-bit Itanium CPUs shipped in 2001.

Unfortunately, Intel developers early on opted for an architecture that's completely different from the common x86 (also known as IA-32) standard. The resulting platform has to resort to an inefficient emulation mode to run 32-bit applications.

The industry-leading vendor had stunningly misread what the market wanted, and the lack of true 32-bit compatibility caused the Itanium to languish. Approximately 5.3 million servers were shipped worldwide in 2003, and of those, 4.67 million (87%) had the 32-bit x86 architecture, according to analyst Mark Melanovsky at research firm IDC. Itanium CPUs were in just 19,000 servers.

A breakthrough came in April 2003, when Advanced Micro Devices Inc. in Sunnyvale, Calif., introduced its AMD64 platform and the Opteron series of 64-bit server CPUs. Unlike the Itanium, the Opteron chips could run 32-bit applications quickly and efficiently in addition to handling new 64-bit instructions. AMD's move led to faster, more cost-effective servers that didn't need to wait for the development of 64-bit applications.

QUICK STUDY

AMD followed up the Opteron in September by announcing the Athlon 64 processor family for desktops and mobile computing. In 2003, some 35,000 Opteron-based servers (almost all of them dual-processor) were sold — nearly double the number of Itanium systems.

In response, Intel announced in February that within a few months it would ship new versions of its Xeon server CPUs (code-named Nocona and Prescott) that could handle 64-bit applications and operating systems. The new capability is being called Intel Extended Memory 64 Technology.

Analysts note, however, that the new Xeons aren't expected to offer the integrated memory controllers or HyperTransport links (a chip-to-chip interconnect technology that operates at memory speeds) of AMD64 chips. Intel's new CPUs are expected to be compatible with AMD's 64-bit instructions.

Why 64 Bits?

There are two major reasons why you might want to use a 64-bit CPU. One is the ability to use massive amounts of memory. Using data in high-speed, solid-state memory is significantly faster than getting it from disk, but there are limits to how much a machine can store in RAM. Running on a 32-bit processor, for example, Windows 2003 Server can handle a maximum of 3GB of RAM, and even Unix systems top out at 4GB. The AMD64 platform can address 4 petabytes of physical memory, and a 64-bit CPU can potentially address up to 18 exabytes.

The second advantage of the 64-bit chip is its ability to handle larger floating-point numbers, which are often used in scientific and engineering calculations. While 32-bit processors can only handle floating-point calculations with values up to 2^{32} (approximately 4.29 billion) unless they resort to software emulation, 64-bit chips can directly use numbers up to 2^{64} (about 18.45 billion billion).

Seattle-based Cray Inc. is building a massively parallel processing supercomputer, nicknamed Thor's Hammer, for weapons research by the National Nuclear Security Administration at the Sandia National Laboratory in Albuquerque. The $90 million machine, scheduled for installation this summer, will use 10,368 clustered Opteron CPUs along with 240TB of disk storage and 10TB of high-speed RAM inside its 108 compute node cabinets.

Although a 64-bit CPU can handle twice as much information at a time as a 32-bit CPU can, it won't be twice as fast — programs won't start in half the time, for example. As an end user, you wouldn't notice a difference in speed most of the time. The difference comes into play with harder-working servers that may have to deal with hundreds or thousands of users, storage areas and process streams simultaneously. In such cases, using CPUs with bigger pipes may mean you need fewer servers overall. That translates into added long-term efficiency.

Other 64-Bit CPUs

There are many other 64-bit CPUs. For example, 64-bit Reduced Instruction Set Computing (RISC) CPUs include the UltraSparc family from Sun Microsystems Inc. and, most recently, the IBM PowerPC 970 (which Apple Computer Inc. calls the G5). Others include Hewlett-Packard Co.'s PA-RISC family, processors developed by MIPS Technologies Inc. and its licensees — including Toshiba Corp., Silicon Graphics Inc. and Digital Equipment Corp. (now part of HP), which pioneered the now-abandoned Alpha architecture. In 2003, Melanovsky says, servers using those processors accounted for 9.8% of the server market. **45804**

Kay is a Computerworld *contributing writer in Worcester, Mass. You can contact him at russkay@charter.net.*

A Look at Six Microprocessors

	Primary use	Maximum clock speed	Maximum RAM supported	Run native 32-bit apps?	Level 1 cache	Level 2 cache	Level 3 cache	Internal bandwidth
Intel Itanium 2	Servers	1.5 GHz	64GB	No	32KB	256KB	6MB	6.4Gbit/sec.
Intel Xeon MP (32 bit)	Servers	3 GHz	4GB	Yes	8KB	512KB	4MB	4.8Gbit/sec.
AMD Opteron	Servers	2.2 GHz	8GB	Yes	128KB	1MB	None	Not available
AMD Athlon 64 FX	Desktops	2.4 GHz	8GB	Yes	128KB	1MB	None	6.4Gbit/sec.
Sun UltraSPARC III	Servers	1.2 GHz	8TB	No	96KB	8MB	None	2.4Gbit/sec.
IBM PowerPC 970 FX	Servers, workstations	2 GHz	8GB	Yes	96KB	512KB	None	Not available

ONLINE RESOURCES

For more information about 64-bit CPUs, visit our Web site:

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Building a Defense Against Complaints

Dealing with complaints from the public can be a stickier situation than any virus attack.

By Vince Tuesday

SECURITY MANAGER'S JOURNAL

I'D LIKE TO THINK that I have a clearly defined role focused around protecting the information assets of my organization. In reality, I also have the delightful job of dealing with whatever else people decide to send my team's way. If I can't think of a better home for it, then we have to mop it up.

This week, we received a complaint from a member of the public. My role as an external-facing part of the company is normally limited. I might get to talk to some auditors and vendors, but that's about it. Even the regulators are all funneled through the compliance department, so on the rare occasion when I'm wheeled out in front of them, I'm accompanied by a compliance handler who keeps me on a short leash.

The complaint came first to the e-mail team, which swiftly passed the buck to the Web support team. That team had the complaint for a day or so before deciding to pass it on to me. The complaining party was a member of an e-mail discussion group about growing rare bulbs. He had provided examples of e-mails from a Hotmail address that he claimed were inappropriate and offensive, and he wanted my company to stop them.

My organization is fairly large, and sometimes remote corners of it take over things without my group hearing about it. But I was pretty sure that we hadn't diversified from financial services to plant advice and that we had not recently acquired Hotmail.

Unfortunately, the complainant had a grudge and an ounce of technical sense. Tucked away in the headers on every Hotmail message is the IP address of the machine that connected to Hotmail and sent the e-mail. This IP address had been tracked back to the address range registered to my company.

The e-mails didn't look that bad. The complainant had posted some obviously off-topic content about the presidential race, and the person connecting from my company had told him to "get a life and stop bothering us."

Given the mild nature of the offending responses, I was almost tempted to send a formal response from my company telling the complainer to "get a life and stop bothering us," but I know that the 10 seconds of pleasure I'd get would be far outweighed by the pain and hassle that would cause.

Since he came to us, I can only assume that the complainant had been given the brushoff or runaround by the discussion group owners and the Hotmail abuse team. I suppose we were his last hope, but the fact that he hadn't given up set alarm bells ringing.

> **The simplest thing to do would be to ignore the complaint, but I got the impression that this moaner wouldn't let it rest.**

I've had problems before with online stalkers targeting people in my company, so I wanted to handle this one by the book in case it got smelly later. I sent copies of the complaint to corporate communications and to the legal department asking them to draft a response.

The simplest thing to do would be to ignore the complaint, but I got the impression that this moaner wouldn't let it rest. No doubt, the complaints would keep flowing up the executive chain until he reached someone who would decide that something had to be done about it. Trivial letters to the chairman do tend to get a response, sad though it is to admit.

Precautionary Action

I'm in a bind about what to advise the corporate communications team to include in its reply. If we say we're starting an investigation, the complainant will no doubt want to know the results, which we would never release outside our company. But if we don't answer, that'll look bad, too.

Any other kind of brushoff, such as sending him to complain to Hotmail, would come back to haunt us if this gets to the press later. We'd look like we didn't care, which of course we don't, but we have to be seen as caring.

The paranoia around our reputation and the potential of bad press limits our freedom to make common-sense responses and sucks enormous amounts of staff time to address problems like this. I suppose that's why people who feel insulted or hurt raise these complaints: They know the lumbering response they provoke from organizations is likely to end with their adversaries getting squashed.

Perhaps this is a hint of things to come and my company should ban all Webmail-type services at our firewall.

But should the many lose the benefits of this kind of service just because of the complaints of the few who might be offended at some point? Would it be worse if Webmail was banned and our staff member had used a company account to send responses? I'll try to keep injecting a sense of proportion into our investigations and response.

Perhaps the trail from discussion group to Hotmail to us is too long for the mainstream press to understand or care about and we're overreacting to the chance of bad press. We'll have to wait and see.

Smarter Viruses

Meanwhile, I've also been keeping my day job going. We've been assaulted by wave after wave of ever more clever viruses. Nothing has made it past the edge yet, but they keep on coming.

The latest Bagel worm was hidden within an encrypted .zip file so most virus scanners couldn't open the file to check its content. You'd think the encryption would also stop end users from opening the infected content, but the virus writer helpfully included the password for the .zip file in the e-mail message.

The antivirus vendors responded by trying each word in an e-mail as a password to open and examine the .zip file. So the next Bagel variant included the password as a picture rather than text to foil our scanners.

The battle goes on, but so far our fortress remains unbroken.

WHAT DO YOU THINK?

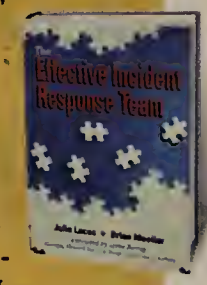
This week's journal is written by a real security manager, "Vince Tuesday," whose name and employer have been disguised for obvious reasons. Contact him at vince.tuesday@hushmail.com, or join the discussion in our forum. **QuickLink a1590**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

Security Bookshelf

***The Effective Incident Response Team*, by Julie Lucas and Brian Moeller; Addison Wesley, 2003.**



Whatever size your company is or however much effort you put into information security, you'll have security incidents. If you want to keep your costs in money or reputation from these incidents under control, then you need a well-oiled incident-response plan and a skilled team to carry it out. This book will help you assemble both from scratch.

The authors take readers on a speedy tour of the key points, from defining what an incident-response team is and what it should do to the depths of the law and computer forensics. This book is an accessible and interesting read and is a perfect guide for midlevel managers who need to develop in-house security teams or assess the abilities of an outsourced team.

– Vince Tuesday

Trend Micro Adds Quarantine Feature

Trend Micro Inc. in Cupertino, Calif., has added an end-user quarantine feature to its Spam Prevention Solution software. The add-on, free to existing users, places suspicious e-mail in a separate Exchange folder. Users can then review messages, approve legitimate ones and manage their own approved-sender lists.

MCI Offers SSL VPN

MCI has introduced Secure Sockets Layer virtual private network services to its desktop remote-access platform, called Access Manager, and its administrative platform for Remote Access Service, called Enterprise Services Management. The SSL VPN is based on technology from Aventail Corp. in Seattle.

BRIEFS

Siebel App Targets Pharmaceuticals

CRM software maker Siebel Systems Inc. in San Mateo, Calif., is shipping a new analytical application for salespeople in the pharmaceutical industry. Siebel Pharma Field Analytics is designed to let mobile users access and manipulate complex information about prospects. Pricing wasn't disclosed.

Vendor Rolls Out Network Analyzer

This week, Network Associates Inc. will announce Netasyst network analyzer software for 10/100 LANs in small and midsize business. The software runs on Windows XP and is available in a standard version, called Netasyst D, and an expert version, Netasyst DX. Both support remote troubleshooting and continual monitoring. Netasyst D and Netasyst DX are priced at $1,995 and $4,995, respectively.

Genalytics Offers Analytics Upgrade

Genalytics Inc. last week announced the latest version of its analytics platform. Genalytics 5, which offers better performance than previous versions, enables analysts to do advanced data extraction without specialized SQL or IT skills, the business intelligence software maker said. The product is shipping now; pricing starts "in the low six figures" for 10 seats, according to Newburyport, Mass.-based Genalytics.

Aruba App Protects Wireless VoIP Calls

Aruba Wireless Networks Inc. in San Jose last week unveiled Secure Voice, an application designed to protect voice-over-IP calls on wireless LANs. Secure Voice runs on a company's WLAN switches and relies on key features of the switch operating system to identify and authenticate voice traffic, according to Aruba.

NICHOLAS PETRELEY

Playing IT Jeopardy

WE TAKE YOU TO THE STUDIOS OF America's favorite game show, the only kind of jeopardy that even an IT security manager can like.

Alex: Welcome to *IT Jeopardy*, I'm Alex Quebec, that's pronounced "Ahl-lex Keh-bek," the host of our show. Tonight's categories are "Marketing Madness," "Numbers" and "More or Less." Our contestants are Hank, Trish and Sophie. Hank, why don't you start us off by choosing a category.

Hank: I'll take "Marketing Madness" for $500, Mr. Kweebeck.

Alex: That's Quebec. And the answer is, "Like comparing apples to malaria."

(*Trish buzzes first.*)

Trish: What is comparing the cost of Linux on a mainframe to the cost of Windows on a PC?

Alex: That's correct. And Trish takes the lead with $500 and with it the right to choose the next item.

Trish: I'll take "More or Less" for $100, Alexandra.

Alex: That's Alex, Trish. And the answer is, "Former President Bill Clinton's opinion on marital fidelity."

Hank: (*Shouting.*) What is more credible than SCO's claims in its lawsuits?

Alex: Right. And Hank is on the board with $100. Your choice, Hank.

Hank: I'll take "More or Less" for $400, Mr. Kabark.

Alex: Quebec. And the answer is, "A midnight stroll alone through New York's Central Park."

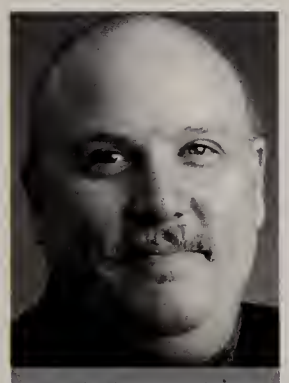
(*No one answers.*)

Alex: Five seconds.

Trish: What is less risky than using Microsoft Outlook?

Alex: Judges? No, I'm sorry. You were close, though, Trish. What we were looking for was "Microsoft software," not "Outlook" specifically. You still control the board, Hank.

Hank: "Numbers" for $300, Alec.



NICHOLAS PETRELEY is a consultant and author in Kansas City, Mo. He can be reached at nicholas@petreley.com.

Alex: It's Alex. And the answer is, "Aside from the bottom line, these are the most important numbers to a U.S. IT organization."

Hank: What's total cost of ownership?

Alex: No, I'm sorry. Anyone else?

Sophie: What is the international dialing code for India?

Alex: That's correct, Sophie, and you're on the board with $300. It's Sophie's choice now.

Sophie: I'll take "More or Less" for $300, Mr. Kabeek.

Alex: It's Quebec, Sophie. And the answer is, "The Loch Ness monster."

Sophie: What is easier to find than Microsoft innovation?

Alex: Right. And that puts Sophie in the lead with $600. Your choice again, Sophie.

Sophie: "More or Less" for $500.

(*Bell rings; lights flash.*)

Alex: Congratulations, Sophie, you found the Daily Double. You have $600; how much would you like to wager?

Sophie: Let's see, I'll make it a true Daily Double.

Alex: OK. For $600, Sophie, what does this picture represent?

(*A picture of a blank sheet of paper is shown.*)

Sophie: (*Hesitating.*) What is a complete listing of the source code owned by SCO that was illegally incorporated into Linux?

Alex: That's absolutely correct, and Sophie takes a commanding lead with $1,200. Sophie, it's still your choice.

Sophie: I'll take "Marketing Madness" for $300 please, Alice.

Alex: Alex. And the answer is, "We were planning to switch to open-source software."

Hank: What do you tell Microsoft when you want a deep discount on their software?

Alex: That's correct, Hank, and it brings you to $100, tying you with Trish. Hank, you pick the category.

Hank: Thanks. I'll take "Marketing Madness" for $100.

Alex: OK. The answer is, "$2 billion."

Trish: What is the list price on Scott McNealy?

Alex: That's what we were looking for, and now you're all alone in second place with $200.

(*Bell rings.*)

Alex: That means our time is up and it's time for Final Jeopardy. Today's category is "E-mail." And the answer is, "What the contents of your in-box indicate you need to do most."

(*Theme music plays while contestants write their answers. Music ends; contestants put down their pens.*)

Alex: We'll start with you, Hank. Let's see your response. Hank says what your in-box indicates you need to do most is "lose 20 pounds in one week without drugs or dieting." I'm sorry, Hank, that is not correct, and even if it were, you didn't put your response in the form of a question. You had $100 and wagered it all, so that brings your total to zero.

That takes us to Trish, whose answer is, "What is buy cheap Xanax and Sildenafil Citrate?" Excellent guess, but it's incorrect. Trish also wagered it all, so she, too, ends up with nothing.

Let's move on to Sophie. The answer was, "What the contents of your in-box indicate you need to do most," and she wrote, "What is get a better spam filter?" That's correct. And Sophie is our new *IT Jeopardy* champion.

46021

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Q&A

Bringing the Market Inside

MIT professor Thomas Malone says that the same laws of supply and demand that fuel world economies can work within a company to staff projects, share information and even schedule manufacturing. **Page 37**

Career Watch

This week, we look at building your IT résumé by working at a nonprofit organization, the good news for IT security professionals and the salary boost provided by having a government security clearance. **Page 38**

OPINION

It's Time for a Risk/Reward System

Sharing the risk on a contract benefits the IT customer and the vendor, says Bart Perkins. Here's how shared risk contracts work. **Page 39**

War stories – and lessons learned – from IT leaders faced with products that didn't work as advertised.

BY THOMAS HOFFMAN

Pulling THE Plug

YOUR ORGANIZATION has invested thousands, maybe millions, of dollars trying to install a vendor's product to give your Web site more capacity or optimize your supply chain, and it just doesn't work as expected. Now what?

Senior management wants to know where the money went. End users want to string you up. You'd like to sneak out of Dodge, but you can't.

Here are the tales of six IT leaders who had to deal with underperforming projects and took decisive actions to clean up the mess.

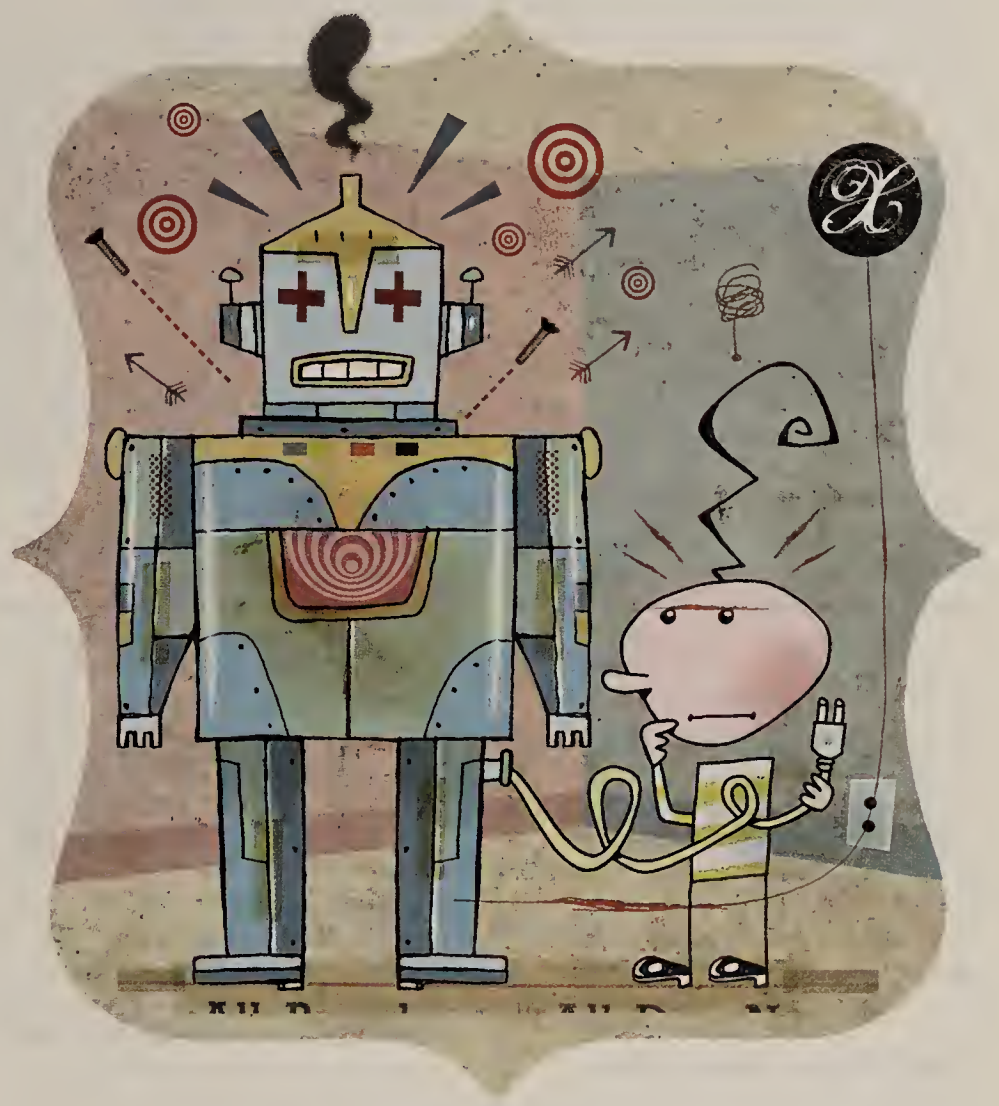
Grounded

Four years ago, the U.S. Air Force tried to replace a 25-year-old aircraft maintenance tracking system with one that had mobile terminals and Unix-based off-the-shelf software that it expected to begin piloting within 12 months.

But after two years and heavy customization of the commercial package, "we realized it just wasn't going to happen," says Air Force CIO John Gilligan.

The Air Force tracks many of the parts used in its aircraft by their serial numbers, and the third-party software it was trying to deploy "couldn't do the kind of serial-number tracking we needed," Gilligan says.

In addition, he says, the software



WALTER VASCONCELOS

"wasn't mature enough" to handle the Air Force's stringent quality-assurance sign-offs on aircraft maintenance.

In hindsight, Gilligan says the Air Force was partly to blame for what became a $200 million failure — a price tag that includes software licensing and consulting fees and the cost of hardware and internal labor. He says that the Air Force did a poor job of governing the project and that critical decision-making during the project occurred on "too low a level."

"It was kind of a slippery slope, and we were so far down that it became very difficult to walk back up," says Gilligan.

When the agency decided to cancel the project, end users "were doubly unhappy," says Gilligan. Not only would the system not be delivered, but the Air Force also froze any upgrades to the mainframe system for four years to help free up capital for the modernized system.

So Gilligan and the Air Force team addressed some short-term requirements to improve the end-user experience. Two years ago, the agency developed a browser-based front end to make it easier for maintenance crews to access the legacy system from its 100-plus worldwide bases.

The project team also began collapsing dozens of databases into a single repository. Then the group began to implement middleware tools and portal interfaces to make it easier for top brass to pull maintenance information out of the system.

Cutting the cord with the vendor behind the project wasn't too difficult, says Gilligan, since the contract had various milestones that had to be met or the effort would stop. And while the vendor

WEATHERING A STORM

Sometimes a commercial product works fine until it's required to perform on a much larger scale.

In 2000, The Weather Channel Interactive Inc. began using IBM's WebSphere application server to support its Web site, Weather.com. The system runs on Linux and allows Weather.com to dynamically build weather pages for more than 90,000 cities worldwide. Mark Ryan, formerly the chief technology officer at The Weather Channel, says he was pleased with the performance of the application server at the time.

ANN STATES

Dan Agronow: "I guess I was a little too trusting."

But scalability became a big problem starting on Jan. 3, 2002, when site traffic spiked to 18 million page views. "Whenever we had a severe winter storm, we either had very slow response times or unavailability and complaints from our visitors, which was unacceptable," says Dan Agronow, now vice president of technology.

On top of that, IBM handed the Atlanta-based network a maintenance bill "that was outrageous," he says. When Agronow complained, The Weather Channel's IBM account manager responded by saying that IBM was the only vendor that could support such a big Linux environment, thus making it impractical for Weather.com to migrate to another platform. "It's almost like they challenged us," he says.

Agronow had evaluated an open-source application server called Tomcat, and he told The Weather Channel's executive team that migrating to Tomcat would solve its Web site capacity problems. "I had pressure from our CEO that we had to fix this and we had to fix this permanently," says Agronow.

"While we understand the customer's issues and worked closely with them to remedy the situation, this was one of the first generations of these new technologies. It's atypical of the positive experience, especially with scalability, that tens of thousands of WebSphere customers have had," says IBM spokesman Steve Eisenstadt.

Since the Tomcat migration was completed in June 2002, Weather.com has been able to scale to more than 55 million page views per day when big winter storms or hurricanes drive usage spikes, according to Agronow.

If he ever encounters a similar situation, Agronow says, "I would like to see proof from the vendor that their solution can perform at the capacity level we needed, even if it's in the lab. I guess I was a little too trusting."

– Thomas Hoffman

"realized they would get a black mark" for not having completed the project, "on some level, they were just as unhappy" with the Air Force's inability to re-engineer its internal processes, Gilligan says.

Now that the commercial market for maintenance systems has matured a bit and the life of the legacy system has been stretched out, Gilligan says his group will begin evaluating other third-party packages within the next year, including ERP systems that would include components such as supply chain management, maintenance and procurement functionality.

Less Than Hospitable

At Mandalay Resort Group, marketing managers "were livid" about an effort to integrate two marketing applications, a project that ran two years late and 25% to 30% over budget, says CIO Tracy Austin. The marketing data warehouse encountered systems throughput and uptime problems related to the hardware, business intelligence software and the operating system that were selected, says Austin.

Part of the problem, she says, was that the Las Vegas-based hospitality and gaming company had failed to set any performance parameters to measure at regular intervals whether the project was meeting business and technical requirements.

Austin, who joined the company as CIO in early 2003, when the project was at its midpoint, took immediate steps to salvage the seven-figure effort. With no contingency plan in place, Austin went to senior executives in the company and explained the situation to gain additional funding for new hardware and software. She made sure the contracts with the new vendors included financial penalties if systems availability and throughput thresholds weren't met.

Mandalay then installed a new operating system and hardware platform within two months. Once that "healed the bleeding," the project team installed new business intelligence tools six months later, Austin says.

Because the previous system had been in place for nearly two years and was being used by Mandalay's marketing team, says Austin, "there was no way to recoup any significant portion of the investment." But it did help teach her staff the value of establishing strict prototype and design reviews and building performance metrics into the contract.

Project Pointers

- Don't accept a vendor's product at face value, even if it's already used by your company for different purposes.
- Build contingency planning and risk management into the project from the outset.
- Don't hang project success completely on a vendor. Recognize what steps need to be taken internally – including business process changes.
- Test products in a laboratory setting before signing off on funding.

Authorizing Success

In mid-1998, MasterCard International Inc. began looking for a client/server authorization system for its merchant customers as part of a five-year, $160 million IT upgrade. But 18 months into what was supposed to be a one-year effort, the Purchase, N.Y.-based company realized that the number of lines of code it had co-written with the vendor had doubled and that the system still had big problems porting between HP-UX and Sun Solaris.

"There was a lot more vaporware there than software," says Robert Reeg, senior vice president of systems. Fortunately, MasterCard had built termination clauses into the contract as well as intellectual property protection. As a result, the credit card issuer was able to obtain full ownership of all the software it co-wrote with the vendor and free licensing rights to the base software code. MasterCard finished developing the software itself and put it into production in 2000.

Although that piece of the company's five-year systems enhancement effort ran about 25% over budget, the overall project was completed on time and just 3.7% over budget, Reeg says.

Reeg says he learned a few lessons from the experience, including the importance of running a vendor's software through a third-party lab to ensure that it meets performance requirements. And "having a good lawyer working with you" to help define exit clauses and intellectual property rights in the contract doesn't hurt either, he adds.

Rerouted

Sometimes, pulling the plug on a project can be a blessing for everyone involved. When Juniper Networks Inc. was about six months into developing a browser-based, self-service customer system in late 2002, IT staffers and customer service managers realized that the system they had licensed just wasn't meeting the company's needs, says CIO Kim Perdikou.

The business-unit leader agreed, so Perdikou negotiated a contract termination with the vendor and had internal staffers develop the desired functionality in-house.

"The biggest thing was the relief people felt when . . . we tried to do something totally different," she says. "People were stressed about this thing not working properly."

The Sunnyvale, Calif.-based router maker had a 90-day limit on all projects, but the standard wasn't enforced as strictly then as it is now, says Perdikou. The project ended up running 90 days longer than expected and 50% over budget.

But the biggest takeaway, says Perdikou, was learning to admit openly to end users that the system wasn't working properly and to tackle the problem head-on. "The expectation of IT delivering what you need today is so low that users give up and build what they want or live with things that are semi-best," she says. "We should work with people to get things done right."

Having a solid contingency plan can also ease end-user tensions. When Philadelphia-based Lincoln Financial Group tried to install an enterprise single sign-on customer identification system for its external Web sites in late 2003, the product couldn't perform the kind of distributed administration that the IT department or end users had anticipated, says Jason Glazier, Lincoln's chief technology officer.

So Glazier had the project team take out the vendor's product, and Lincoln developed its own identification system using Microsoft Corp.'s SQL Server. That helped the project team meet its original delivery target of January 2004.

And although the project sponsor was dismayed that the original product didn't work as expected and probably cost an extra $50,000 to $100,000, having a bona fide backup plan "made it a much less awkward" situation, Glazier says. **45817**

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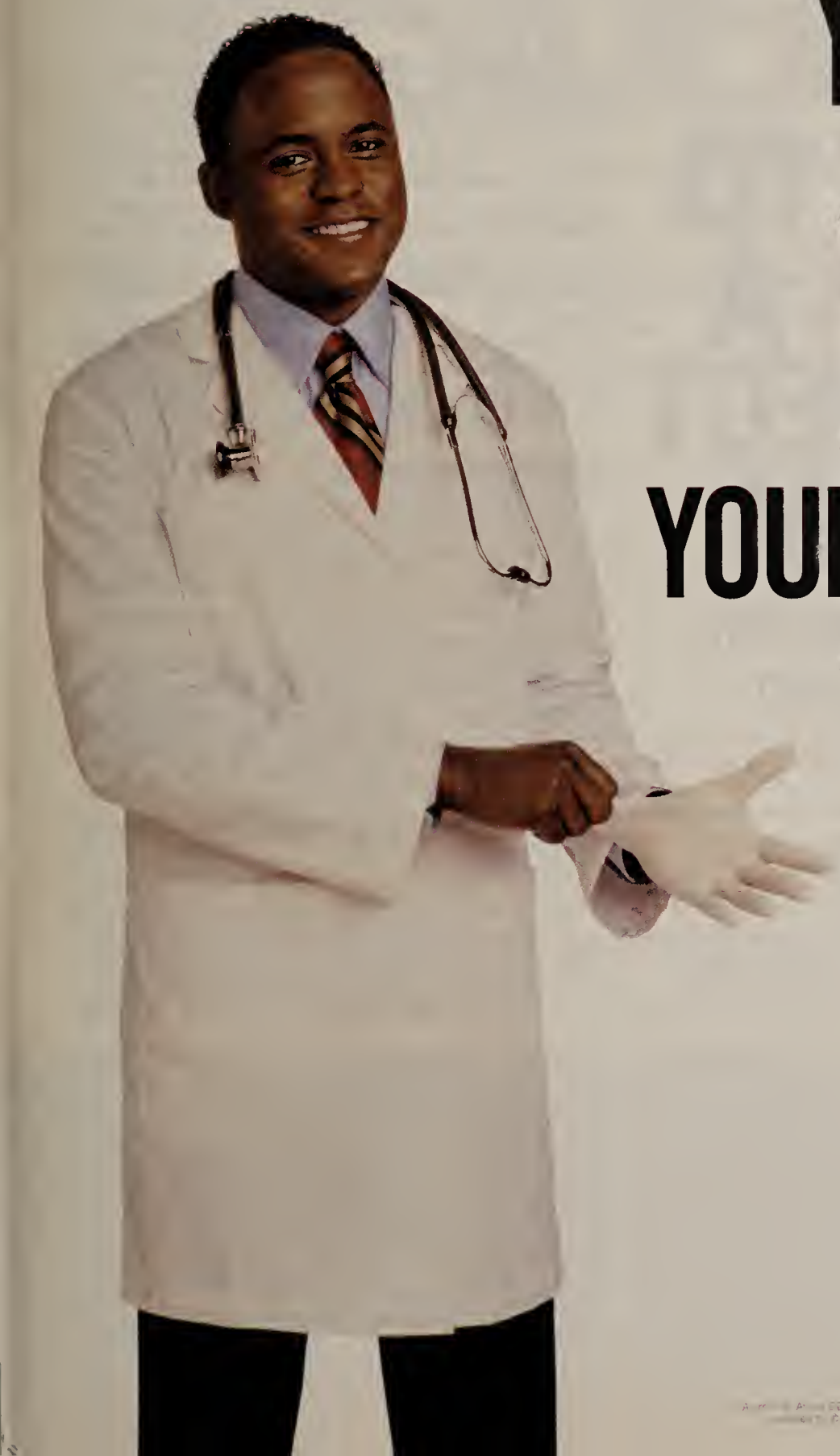

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DAVID CLARK

HOW TO PICK A PROJECT TEAM

Tech skills are only the beginning.

By Kathleen Melymuka

WHEN BILL HAGERUP was a novice project manager, he attended a meeting in which managers were picking people for upcoming projects. He let the other project managers step all over him and ended up with the leftovers. "The project didn't go well, and I vowed I would never let that happen again," he says.

Next time, he was prepared. Well before the meeting, Hagerup approached each of the top-skilled people and sold them on the project, so their bosses agreed to let them go. "I got all the people I wanted," he says. "And it turned out to be a terrible project."

He had picked people for their technical skills and ended up with a team of prima donnas. "They couldn't work together," explains Hagerup, who is now a project management specialist at Ouellette & Associates Inc., a consulting firm in Bedford, N.H.

A great project team requires more than technical skills. It takes the right mix of "soft" skills, personalities and attitudes to gel and achieve results. Here are some tips from project managers about whom you need on your team and how to get them.

FEWER IS BETTER

After the fifth member, a project team's effectiveness is inversely proportional to its mass, says Catherine Tomczyk, a project manager at First Data Corp. in Greenwood Village, Colo. But affected departments often want representatives on a team regardless of whether they have any value to add. The result is bloated teams with uneven skills, knowledge and commitment levels, and getting them on the same page wastes time and energy, Tomczyk says.

Her best teams have had only four people. Each person understood the project's direction and his role, and they all pulled together. This type of team can work two to three times faster than an overstuffed one, Tomczyk estimates.

ATTITUDE COUNTS

Look for people with positive attitudes and behaviors, says Sue Young, CEO of ANDA Consulting, a project management consulting firm in Williston, Vt. People with a good work ethic who are upbeat, respectful of others and continually learning will help lift the team's spirit, she says. Conversely, one cynic can spoil the entire team's outlook.

If you have to choose between specific skills and attitude, go for attitude. "Experience is very important," says Jeff Anderson, a project manager at First Data, "but I can override experience for a person with a strong work ethic that I can count on."

DIVERSITY LOWERS RISK

"The riskier the project, the more diversity you need in the team," says Johanna Rothman, president of Rothman Consulting Group Inc. in Arlington, Mass., and co-author of *Hiring Technical People* (Dorset House, 2004). IT tends to attract similar types of people, and that's something you need to counteract.

For example, people who want to bring quick closure to decisions are overrepresented in IT, she says. That can be a danger because their desire for closure can lead them to focus on a strategy before considering the alternatives. "They come up with the first idea, and that's it," she explains. "You get 'groupthink' much more easily." Adding someone who likes to examine many options can make a big difference, she says.

FAMILIARITY BREEDS ACTION

It's helpful if team members have worked together before, Tomczyk says. "Everybody has his or her own communication style and approach, and if you don't have any of that background walking in, it takes a lot of time and energy to build a team," she adds.

AVAILABILITY TRUMPS EVERYTHING

Availability is where the real world intrudes on the best-laid plans. "In most decisions about project teams, the No. 1 factor is who's available," says Hagerup.

Availability takes planning, says Tom Watson, a project manager at Bayer Corporate Business Services Inc. in West Haven, Conn. "You need to identify what resources you will need and when," he says. If you're expecting to need a certain person three months out, do something about it now. "Contact that person's boss and make it very clear that in three months you will need Joe's technical expertise," he says. "If he's not available, you may have to shift the project or deliverables based on when he is."

LEVERAGE MATTERS

Once you know what kind of team you'd like, how do you get it? One key to obtaining leverage is good relationships with other managers. "If I say I need Joe, that manager may have the same request five times a day," Anderson says. "But if I have a good history with him, he won't just blow me off."

Leverage can also come from an educated customer. When Rothman has trouble getting the people she wants for a project, she explains the implications. "I say, 'Here's what I can do, given the investment you're willing to put in. And if you give me the skills I want, here's the extra value I can add.' "

When it comes to picking teams, project managers shouldn't take no for an answer, says Jim Highsmith, a consultant at Cutter Consortium in Arlington, Mass. "Fight to get the right people on your team," he says. If you can't get them, tell the customer to alter or postpone the project until you can. It takes guts, he says, but the issue is simple: "Do they want projects done, or do they just expect miracles to happen?" **45794**

THE 'WHOLE BRAIN' TEAM

Veteran project managers say that great project teams include individuals with complementary talents that go beyond IT skills. Here are some classic individual workstyles that could help make yours a "whole brain" team.

■ **The Architect** thinks of options for how things could be done. He never stops at the first solution; he raises and ponders many possibilities. Without him, the team may jump on the first good idea and never consider a better one.

■ **The Facilitator** helps the team get to closure. He can present the pros and cons of the architect's various ideas and add insights to help the group narrow the choice. Without him, team members may separate into opposing camps.

■ **The Devil's Advocate** is the iconoclast, the troublemaker, the questioner. He forces the group to defend its direction. Without him, the team can too easily fall into groupthink.

■ **The Big-Idea Guy** comes up with the "out there" solution. He fuels the brainstorms and enables the team to take leaps of faith. Without him, the team may miss opportunities for important breakthroughs.

■ **The Anchor** is a stickler for process, procedure and cold reality. He knows what will and won't work and what can and can't get through the bureaucracy. Without him, the team may get carried away with a big idea that's not feasible.

■ **The People Guy** understands how typical users behave. He provides reality checks for the team by envisioning how people will use what the team creates. Without him, the team may create an elegant product that users hate.

– Kathleen Melymuka

Bringing the MARKET INSIDE

IT-enabled internal markets can speed up and improve decision-making.

Can the same laws of supply and demand that fuel world economies work within a company to help it staff projects, share information and even schedule manufacturing? In April's Harvard Business Review, **Thomas W. Malone**, *the Patrick J. McGovern Professor of Management at MIT's Sloan School of Management, tells how a team at MIT has been experimenting with the use of internal markets to demonstrate that what works in the global economy may work inside your business as well. In an interview with* Computerworld's *Kathleen Melymuka, he explains what internal markets are all about.*

What is an internal market? An arrangement where people inside a single company buy and sell things to each other for money or some kind of internal points or "funny money."

What are the broader implications of internal markets for the way we work? Internal markets are one intriguing way that people throughout a company can exchange information much more rapidly and widely in a way that lets lots more people make decisions for themselves instead of just relying on people above them to tell them what to do.

What role does IT play in the internal-market scenario? IT greatly reduces the cost and difficulties of having broad internal markets and therefore makes them more feasible in many more situations than they would have been in the past.

Talk about the way Hewlett-Packard uses internal markets to fund and staff projects. HP used a "VC cafe," inspired by how venture capitalist funding works. Anyone in the division could propose a project, and that proposal would be reviewed by a board of senior managers. If those managers thought the project worth doing, they would fund it, and then a description of the project would be posted in an internal system where everyone could see it. People could indicate interest to the project manager. In this way, projects could be proposed and individuals could find projects they wanted to do even if their managers didn't know about their interests.

How else has HP used internal markets? In one case, they let marketing and sales people in one part of the company buy and sell "futures" contracts for predictions about what the sales of a particular product would be. For instance, people who believed sales would be 10,000 to 20,000 units would buy a contract for that prediction. If the prediction was correct, their contract would be worth a dollar; if incorrect, worth nothing. So over time, people bought and sold their futures contracts on sales predictions, and prices varied according to the collective opinions of everyone participating in the market. It turned out that this market made more accurate predictions of actual sales than HP's own market research.

Why do you think that happened? Because the people participating in the market had a clear incentive to bet on the things they actually believed would happen rather than the things they hoped would happen or would make them look good. Another reason is they were able to combine the opinions of everyone participating more efficiently than a single survey or forecast would usually be able to do.

Can you briefly explain the internal market experiment MIT is doing with Intel? We've worked on a project with Intel to develop a scenario for how they could use an internal market to allocate their manufacturing capacity. Plant managers would sell futures contracts for a certain number of products to be delivered at a certain time in the future, and salespeople would buy those contracts in order to resell those products to their own external customers.

Through the process of supply and demand, prices for different products at different times would vary, and at the last moment before manufacturing needed to begin, the most highly valued products would actually be scheduled in the factories. In this way, the collective knowledge of all the plant managers and all the salesmen about manufacturing costs, customer demand and other factors could be efficiently taken into account in deciding exactly which products to make when.

How well do internal markets respond to change? They can respond very rapidly to changing conditions. Imagine that an earthquake disrupted an Intel factory in Singapore. If they were using an internal market, the response would be determined by rapid exchanges throughout the whole company. Other plant managers who had available capacity could quickly bid on performing the highest-value jobs that had been previously scheduled for the disrupted plant. Salespeople could negotiate to be sure the most important customer needs were met, and hundreds of people throughout the company could be simultaneously working on different parts of the problem without any bottleneck in the process.

Are there situations in which internal markets wouldn't work well? Certainly. In some cases, the best decision for the company is something that internal buyers and sellers would never agree on because it would never be in their own individual interests. In other cases, like when a company is shrinking, it might be possible to make decisions with internal markets, but it's likely to be faster and more effective to do so with centralized managers.

Why haven't internal markets been used much up to now? The most important reason they haven't been used is that the cost of communications and information processing needed for them to work has been prohibitive. Now those costs are falling dramatically with new information technologies.

How do internal markets facilitate individualized service? Internal markets let individual salespeople bid as much as they think it's worth to provide expedited delivery or other kinds of specialized service for their own individual customers instead of having to do this by calling in favors or pulling strings throughout the company. The individual salespeople can see immediately what the actual cost would be and decide whether it's worth it in each case.

And internal markets tend to keep people honest, right? Internal markets provide the right incentives for people to buy and sell according to what they actually think will happen. It is, of course, possible that people might try to manipulate the market, [but] I think it will be easier to enforce trading rules because the senior managers will still have the power to punish those who abuse the internal market. 45735

Some Advantages of An Internal Market

PROVIDES a clear overview of supply and demand for each product or service.

ADJUSTS very rapidly to changing conditions.

FACILITATES service by letting the market determine the real cost and value of expedited delivery or other special arrangements.

KEEPS people honest by providing incentives to act according to what they really think will happen.

This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers.

Career Watch

Numbers Crunch: IT Security

$13.5B	Worldwide financial effect of major virus attacks in 2003
$11.1B	Worldwide financial effect of major virus attacks in 2002
7%	Projected annual rate of growth of U.S. government IT security spending over the next four years
215k	Number of identity theft complaints filed in the U.S. in 2003
33%	Percentage by which U.S. identity theft reports increased over 2002
572	Number of IT security specialist jobs listed on Dice.com during the week of March 22, 2004

SOURCES: COMPUTER ECONOMICS INC., INPUT INC., FEDERAL TRADE COMMISSION, DICE INC.

In information security, how many employees (full-time equivalents) focus on each of the following:

4.6	Security administration
4.1	Technical development and support
2.9	Architecture and engineering
2.5	Disaster recovery and backup
2.15	Compliance and reporting
2.7	Other

AVERAGE SECURITY STAFF SIZE: **20.9**

SOURCE: MARCH 2003 *CHIEF SECURITY OFFICER* MAGAZINE SURVEY OF 408 IT SECURITY PROFESSIONALS

Kreig Ecklund

Title: CIO

Employer: Mercy Ships (*www.mercyships.org*), a charity that operates a fleet of floating hospitals that serve people in developing nations around the world.

Background: Ecklund, 34, joined Mercy Ships in 1998 as an onboard network and systems administrator. Three years later, he was promoted to CIO.

Contact information: ecklundk@mercyships.org.

IT staff: 35 people serve onboard the ships, in offices around the world and at the international operations center in Garden Valley, Texas.

Toughest challenge: Recruiting skilled professionals for jobs with no official salary. Mercy Ships has a fund-raising program in which IT workers, including Ecklund, ask friends, former employers, church groups and others for financial contributions that can be earmarked to pay their salaries.

We caught up with Ecklund at the CIO Executive Summit in Houston on March 24.

Tell me about the people on your IT staff. We get people in what I call the "success to significance" category. They want to leave their mark on the world. These are people who are generally self-supporting, often early retirees. We also find there are a lot of younger people who want to have an impact on the world. Some of these people come for a year. We have one Canadian whose employer allows him to work remotely as a systems administrator. He works for his employer 30 hours a week, and he works for us 30 hours a week.

What IT positions do you have open? We're looking for Java developers, systems analysts and database administrators.

Are there career benefits you can offer in lieu of a salary? For young people, it's an opportunity to build a résumé. I think there's also a very good opportunity for quick advancement. If you're good, you'll move up faster in our organization than in others. I'm very young – 34 – and I'm a CIO.

– Julia King

More Internet Connections Mean More IT Security Jobs

BY 2010, more than 14 billion devices with computer chips will be connected to the Internet. That includes cars, car tires, household appliances, electronic entertainment gear and even shoes and clothing. Even more important is that many of those devices will be capable of executing mini-applications downloaded from other Internet-connected devices. For instance, chips in tires might download and execute programs to gauge air pressure and measure wear on the tread. Executing such programs will, of course, require user identification and authentication, and therein lies the good news for IT security professionals, according to Forrester Research Inc. CEO George Colony.

"It's a good time to make a living as a chief security officer," Colony told CIOs attending the CIO Executive Summit in Houston last month. "Now, of course, everyone knows not to open executable programs because of viruses, but we're headed toward the executable Internet, and that means greater security."

For 2004, Forrester has upgraded its previous forecast of a 1.7% increase in IT spending to a 5% increase, Colony says. Companies will spend the most on upgrading IT security, including hiring security professionals and improving disaster recovery capabilities, he says.

– Julia King

Candidates With Security Clearances Command Top Dollar

JOB SEEKERS with active government security clearances are very much in demand and can command up to $10,000 more in salary than their noncleared counterparts, according to May Jo Wentzel, a human resources generalist at Government Micro Resources Inc., a government IT contractor in Manassas, Va. In the past year, the company has experienced a tenfold increase in the number of open positions for workers with security clearances.

Experts say the surge in demand is due to new initiatives in homeland security and wars on multiple fronts, which have produced thousands of new government contracts and jobs to be filled.

Some employers are even willing to overlook a lack of specific skills in those candidates who have high-level government clearances, according to Rachel Staras, founder of ClearanceJobs.com, an Internet job board dedicated to candidates with active government security clearances.

"With the process to clear a previously uncleared worker still taking up to 18 months, employers are finding it more cost-effective to hire someone with fewer skills and train them than [it is to get clearance for] an uncleared job seeker," Staras notes.

– Julia King

EXEC TRACK

Heitmann Heads IT At KVH Industries

Kelly Heitmann has joined KVH Industries Inc. in Middletown, R.I., as CIO. KVH designs and manufactures products for mobile communication, navigation and industrial applications. Heitmann most recently served as CIO at Edwards Systems Technology Inc. in Sarasota, Calif.

Novak to Succeed Hill as CIO at PPL

In June, Michael D. Hill will retire as CIO at PPL Corp. and be succeeded by Edward T. Novak, who joined the Allentown, Pa., company last week. Novak comes to PPL from Accenture Ltd., where he was lead partner for strategic IT effectiveness. PPL sells energy in major U.S. markets.

SSA Global Names Galarce as CIO

SSA Global Technologies Inc., a Chicago-based provider of IT products and services, announced the appointment of Carlos E. Galarce as CIO, citing his experience in assimilating systems after acquisitions. Galarce has worked at APAC Customer Services Inc., Automatic Data Processing Inc., Electronic Data Systems Corp. and Sears, Roebuck and Co.

Czinege Takes CIO Post at Applebee's

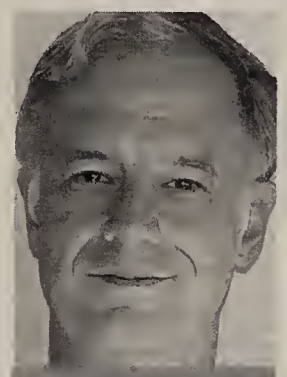
Mike Czinege has been named senior vice president and CIO at Applebee's International Inc., a restaurant chain with headquarters in Overland Park, Kan. Czinege previously served as executive vice president of North American operations at Celerant Consulting and as CEO of the telecommunications, media and network outsourcing business at Cap Gemini Ernst & Young.

BART PERKINS

It's Time for a Risk/Reward System

IN RECENT YEARS, many companies have taken advantage of the difficult economy, demanding drastic price reductions and forcing suppliers to accept terms that result in little or no profit. While this approach may work temporarily, "vendor bending" is a shortsighted solution [see "A Squeezed Supplier Never Forgets," QuickLink 34182]. It's time for contracts that offer advantages to both parties.

Risk/reward contracts are an attractive alternative to traditional contracts. In these agreements, buyers risk paying more fees for the work but are rewarded by having their objectives met or exceeded. Suppliers risk reduced profits if they fail to deliver but are rewarded for superior performance.



BART PERKINS is a managing partner at Leverage Partners Inc. in Louisville, Ky., which helps CIOs manage their IT suppliers. He was CIO at Tricon Global Restaurants Inc. and Dole Food Co. Contact him at **BartPerkins@LeveragePartners.com.**

Risk/reward contracts are especially effective for high-risk projects with significant business benefits. They distribute risk, provide benefits to both sides and align a company's interests with those of its supplier.

As an example, consider a high-risk project with a fair market value of $1 million and a monthly benefit of $80,000 when completed. In a risk/reward contract, the buyer pays $750,000 and agrees to pay the additional $250,000 "at risk" fee if the objectives and deadlines specified in the contract are met. (In general, these at-risk fees are set at 10% to 40% of the total contract.) If other "stretch" objectives are met, the supplier will be paid additional incentive fees. Incentive fees can be a lump sum or incremental payments based on project metrics or milestones. For example, there might be an early-completion bonus of $40,000 per month.

Risk/reward contracts are more difficult to create and manage than standard contracts and are generally unwarranted for commodity purchases. But for projects with high stakes, they offer significant benefits to both parties.

Buyer Benefits

Reduced risk. The fee structure shares the buyer's risk with the supplier. Most suppliers undertake risk/reward projects only if they are confident they can succeed. If you can't find any suppliers willing to undertake your project on a risk/reward basis, you may need to restructure the project to further reduce risk.

Aligned objectives. Some types of contracts give suppliers little or no reason to deliver on schedule. For example, time and materials contracts can actually motivate suppliers to extend projects to maximize their fees. In contrast, risk/reward contracts maximize the fees of suppliers that meet or exceed your objectives. In the construction industry, it's common for crews to work nights and weekends when the contractor faces deadlines that threaten big penalties or promise big bonuses. Similarly, risk/reward contracts can be considered an insurance policy against supplier underperformance.

Payments tied to results. Risk/reward contracts ensure that suppliers receive the at-risk fees only if the contract terms are delivered as specified. Additional incentive payments are received only if additional objectives are achieved. If buyers create good business cases before negotiating their risk/reward contracts, the benefits of meeting the stretch objectives should outweigh the burden of paying the incentive fees. If the contracts are done properly, both sides should be delighted when incentive fees are paid.

Supplier Benefits

Pricing based on value. Risk/reward contracts enable suppliers to center negotiations and discussions around the value and benefits they offer instead of focusing exclusively on cost.

Communication of confidence. Signing a risk/reward contract demonstrates to the buyer (and the marketplace) that the supplier clearly understands the project and believes so strongly in its capabilities that it will stake its profits on its success.

Project team motivation. In many cases, a supplier needs its team's buy-in to achieve a contract's objectives, especially on high-risk projects. Offering to share a percentage of the incentive fees with the project team can motivate them to outperform the contract.

Higher potential profits. Incentive fees offer a supplier the potential to earn more profits than it would have earned from a standard contract, based on its own performance. When you have a high-risk project with major business benefits, a risk/reward contract allows you to leverage the capabilities of your suppliers to maximum advantage. Such contracts motivate your IT supplier to achieve your business objectives, and more, in a timely manner. **45728**

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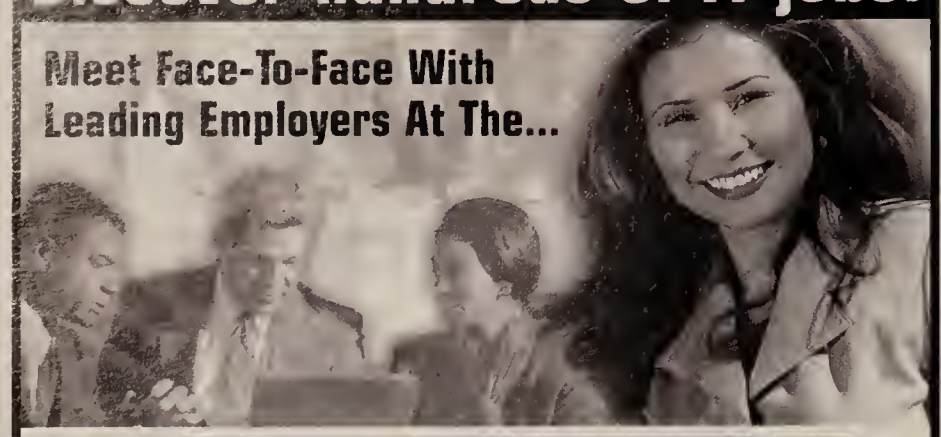

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Computers

Principle Web Applications Developer

Research Triangle Park, NC. Design, develop, test, implement, document and maintain system enhancements and new web applications. Customize, setup and maintain secure web applications with Netegrity SiteMinder in a secure Extranet infrastructure. Setup and maintain identity management software with Netegrity IdentityMinder in a secure Extranet infrastructure. Customize the Plumtree portal framework. Design custom Web Services for global applications. Develop technical specifications of framework modifications and Web Services. Provide time and cost estimates for technical aspects of projects. Perform troubleshooting for the implementation of large scale portal initiatives. Understand the technical and business issues of the customer base and translate into service requirements and processes. Minimize changes to base product and track all changes for easy replication. Evaluation of new web technology software products.

Req.: Bachelor's degree or foreign equivalent in Computer Science or IT field (in lieu of degree, will accept equivalent through education and progressively responsible experience). 1 year of experience in job offered or as Web Applications Developer. 1 year experience in the following, which may have been obtained concurrently: eBusiness technical consulting; and Plumtree Portal Software, relational databases, Oracle, LDAP, XML, ASP, PVCS and DHTML.

GSK is dedicated to an innovative workplace and supports you with career-long opportunities & learning. We offer a competitive benefits and compensation package. For confidential consideration please forward 2 copies of resume to: BHG Box 33410, 220 E. 42nd St., 14th Fl., NY, NY 10017. Indicating ad code "WAD" is essential. Principals only, no agencies. GSK is proud to promote an open culture, encouraging people to be themselves and giving their ideas a chance to flourish. GSK is an equal opportunity employer.

IT PROFESSIONALS:

Financial Systems Analyst

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Design, develop, maintain SQL Server to build financial web applications. Develop relational database design utilizing Microsoft Visio. Develop and maintain database backup/recovery plan and restore operations. Utilize SQL programming, Crystal Reports and other related technologies in MS Access environment to develop reports. Develop ActiveX Server Page (ASP) utilizing Visual Basic Script and HTML. Write ASP scripts to integrate SQL Server database information into HTML. Utilize Visual Basic Scripts to write forms to connect databases and passing variable values to stored procedures. Utilize Home Site and MicroSoft Front Page to develop, maintain and debug ASP. Perform data reconciliation. Utilize data to develop web-based financial reports. Assist with budgeting of costs related to local office expenditures. Support development of regional budget model. Analysis of local/regional budget to ensure actual expenditures are running within budget and perform financial data trend analysis. Perform financial operation analysis. Present results to regional firm leader.

The wage offered is $57,000 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree in Business Administration, Accounting, Computer Science, Information Systems, Economics or Math + 2 years of experience in the job offered or 2 years of experience as a Financial Data Manager, Project Accountant, Contract, Associate, Financial Staff/Computer Staff, Financial Analyst or Analyst. At least one year of related experience must include SQL Server, MS Access, MicroSoft Visio, SQL programming, Visual Basic Script, HTML, Home Site, Microsoft Front Pages, Crystal Reports and ActiveX Server Pages.

Please send your resume, referencing Job Order Number **WEB-405466** to the: PA CareerLink, FLC Unit, 235 West Chelten Avenue, Philadelphia, PA 19144. EOE.

IT PROFESSIONALS:

Senior Consultant

POSITION: (Glen Mills, PA and other locations throughout the United States). Responsible for gathering and documenting technical systems and requirements through user discussions and writing functional and technical design documents. Implement design and development of data interfaces using PL/SQL and Oracle 9i as the RDBMS (Relational Database Management System) in conjunction with Quest tools. Design custom Oracle interfaces and scheduling for the interfaces in UNIX environment. Responsible for the version control and migration of batch scheduling scripts across environments. Design, develop and implement data interfaces to extract information from legacy mainframe-based systems and load them in the desired format to Oracle databases. Design database and tables using Erwin data modeling tools to save the data currently stored in legacy databases for easy extraction for a Web-based ordering and forecasting tool. Work with mainframe developers to recommend, review and suggest revisions to data-extracts in a format suitable for processing and subsequent loading to Oracle databases.

The wage offered is $84,360/year. The work schedule is Monday-Friday 9:00am-5:00pm. The minimum requirements are as follows: Bachelor's degree or equivalent* in Comp Science, Engineering (any), Mathematics, Business Administration or Information Technology + 2 years experience in the job offered or 2 years experience as Senior Consultant, Consultant, Software Engineer, Technical Lead, or Team Lead. Related experience must also include UNIX, Oracle, and Relational Database Management Systems (RDBMS). *Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determine by an accredited institution of higher education in the United States.

Please send your resume, referencing Job Order Number **WEB405210** to the: PA CareerLink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE.

Sr. Consultant. We are seeking qualified candidate(s) to analyze & review clients' requirements to plan data processing systems and network operating systems. Plan layouts and the installation of new network systems for small businesses. Design, develop, evaluate and implement techniques for software programs. Manage LAN & WAN stations covering upgrades and all computer technical work including TCP/IP, e-mail, database servers & Firewalls. Reqd: Bachelor's degree in Computer Science, Math or Engineering, MCSE and 2 years related experience. Please send resume to All Covered, Inc. 275 Grove Street, Suite 2-400, Newton, MA 02466 or fax to 617-556-0250 Attn: Director CS or e-mail to mhartman@allcovered.com. No calls, please. EOE

Software Engineer- Responsible for complex product design, systems analysis, and programming language. Performs design, development, implementation, and maintenance of large Object-Oriented/RDBMS-based client-server software systems and/or subsystems. Performs complex bug verification, release testing, and beta support for assigned projects. Researches problems discovered by quality assurance or product support and develop solutions. Requires a minimum of a Bachelor's Degree in Software Engineering, Computer Science or related field, with a minimum of three years experience in systems software development, design, and implementation, and demonstrated knowledge of C++, Smalltalk, and Visual Basic. Send resumes to BulldogIT, 210 12th Ave. South, Suite 209, Nashville, TN. 37203. Attention: Greg Watson

COMPUTER

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Computers - Manager MIS. Oversee development of systems and networked client/server, multi-tiered management software for manufacturing/import co. w/ Windows NT, VB, SQL Server Design, ASP, EDI standards & add'l tools/languages. Reqs 6 yrs exp & Bachelor's Comp Sci, Engineering, or Math. Send resume to: Feizy Import & Export Co. 1949 Stemmons Freeway, Dallas, TX 75207 Attn: N. Garroussi

Programmer, level II position in Highland Heights, Ohio office. Send resume to Progressive Casualty Insurance Co., Attn: Donna Gray-Wise, IT Manager. Must reference job code #DGW031. EOE.

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APPLICATION PROGRAMMER/ANALYST Analyze & program internet applications. Assist dvlpt team. BS Comp Sci or equiv, 2 yrs exp in job or as Web Designer, JAVA, ColdFusion, HTML, Graphic Design + exp w/ internet service admin req'd. Send resume to: Mr. Cadora, Atavia, Inc, 6075 Roswell Rd, #450, Atlanta, GA 30328.

DB Administrators needed to analyze, dsgn, dvlp, install & test IBM DB2 UDB packages on Win, Unix IBM-AIX, Sun-Solaris, RedHat-Linux, Win NT & 2000; tune Unix kernel parameters; write embedded SQL prgms & shell scripts; tools used Incl Websphere, MQSeries, ERWIN, XML, Load runner, Aqua Data Studio, & DB2 Connect. Send resume to: Global Consultants, Attn: Hireme, 8800 Grand Oaks Circle, #140, Tampa, FL 33637.

Software Engineer (with Masters degree and 1 year experience or Bachelors with 6 years experience) -Williamsport, PA. Job entails and requires experience in testing, development and implementation of commercial applications using Oracle, JavaScript, ColdFusion Server and Studio, ESRI's ArcIMS, ArcGIS, ArcSDE, ArcView and Macromedia Dreamweaver. Relocation within USA possible. Attractive compensation package. Send resume to Supriya Palayekar, Palayekar Companies, Inc., 1959 East Third Street, Williamsport, PA 17701.

Computer Support Specialist - A medical clinic is currently seeking a Computer Support Specialist. The job duties include designing plans for new systems and administering controllers that include DNS/DHCP/WINS Servers. Requires a minimum of 1 yr experience as Database Administrator/Network Security Administrator/or Systems Programmer & Developer and Bachelors degree or equivalent in Computer Engineering. Send Resume: HR Manager, An King Ang MD, P.C., 1 William Carls Drive, Commerce, MI 48082.

Systems Administrator - A healthcare company is currently seeking a Systems Administrator, Requires a minimum of 1 yr experience as I.T. instructor/Database Manager/or Database Administrator and Bachelors degree in business or computer with courses information technology. Send resume to HR Department, Continental Rehab Services, Inc. 28002 Universal Drive, Warren, MI 48092.

System Analyst wanted by UTHSCSA to analyze data processing problems for application to electronics data processing systems. Provide interface application and database solutions and related duties. BS in Computer Science and 2 years related experience required. Send Resume to Dr. Judith K. Patterson, PhD, STVHCS Ambulatory Care 11C6, 7400 Merton Minter Blvd, San Antonio, TX 78229.

Senior Consultant

(Glen Mills, PA and other locations throughout the United States). Responsible for supervising a team responsible for developing and implementing architecture for Enterprise Application Integration (EAI), data design and e-Commerce projects. Responsible for architecture, design, development, maintenance and enhancement using software packages like Rational Rose, UML, Rational ClearCase, PVCS, CORBA, MOSeries and other related technologies. Formulate, prepare and define system scope and objectives through research and fact finding to develop, modify and use existing system tools and languages including Sun Solaris. Lead a team of developers responsible for implementing the Extract-Transform-Load process using Unix Shell Scripts, Java, Oracle and related technologies. Develop project implementation and methodology as well as client summaries. Develop project implementation plan and technical solution work plans for EAI.

The wage offered is $85,176/year. The work schedule is Monday-Friday 9:00am-5:00pm. The minimum requirements are as follows: Bachelor's degree in Computer Science, Math, Engineering (any), Business Administration or Information Systems (employer regards a foreign degree as equivalent to a U.S. Bachelor's degree as determined by an accredited education evaluation service) + 3 years experience in the job offered or 3 years experience as a Senior Consultant, Consultant, Software Engineer, Programmer or Analyst. Related experience must include at least one year of EAI, Unix Shell Scripts, Java, Oracle, Rational Rose, CORBA, MOSeries, Sun Solaris, Rational ClearCase, PVCS and UML.

Please send your resume, referencing Job Order Number **WEB 404349** to the: PA Dept. L&I, 235 W. Chelten Ave., Philadelphia, PA 19144. EOE.

Embedded Software Engineer for GSM Wireless Systems Dvlpmt, incl dsgn, dvlpmt, integration & testing of low-level embedded s/ware for GSM subsystms. Specific duties: dsgn, dvlpmt & integration of RF chipsets for GSM, GPRS & EDGE handsets & dvlpmt calibration tool for RF characterization & calibration and integrating RF drivers w/a third party GSM protocol stack. Dsgn, dvlpmt & s/ware integration for wireless communications protocol stack such as GSM; work w/layer 3 & layer 2 protocol stack entities such as GSM Radio Resource Mgmt, Mobility Mgmt, Call Control & RLC/MAC; script dvlpmt for base station simulators (such as Rhodes & Schwarz CMU-200) & protocol analyzers (such as Tektronix K1297) for GSM systms; embedded s/ware dvlpmt on several h/ware platforms in C and C++ using Real Time Operating Systems; work w/emulators, debuggers, logic analyzers & configuration mgmt tools; & s/ware dsgn & implmtn using protocol stack machine concepts. Reqs Bach or equiv in Comp Sci or related field. 5yrs exp in job offd or 5 yrs exp in dvlpg wireless s/ware. Respond to HR Mgr, Job Code #SWENG02-IT, Elektrobit Inc., 11121 Willows Rd NE, Ste 200, Redmond, WA 98052.

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Manager, Technical Support

(Glen Mills, PA and other locations throughout the United States).Resolve operational and technical issues and monitor production cycles. Enhance production processing by developing innovative solutions and respond to requests and recommendations for the improvement of client services. Develop and maintain operational, technical architecture, data repositories, and application logic procedures and practices. Manage client projects and external resources at our global, national, regional and local offices. Conduct user requirement interviews in order to produce functional and technical requirement documents. Utilize knowledge of Microsoft SOL Server to facilitate the design of technical and application solutions identified during definition cycles. Oversee the development of technical and application solutions encountered during the design cycle utilizing various software development languages including Microsoft Visual Basic, ASP, COM, JavaScript, and XML. Deploy developed solutions using Microsoft SOL Server and Microsoft Visual Basic 6.0. Coordinate the data transfer process of deployment efforts, ensure the data's quality and integrity, lead user training and provide technical support for implemented applications.

The wage offered is $66,300/year. The work schedule is Monday-Friday 9:00am-5:00pm. The minimum requirements are as follows: Bachelor's degree in Computer Science, Engineering (any), Math, Information Systems, or Business Administration + 2.5 years experience in the job offered or 2.5 years experience as a Manager, Senior Consultant or Consultant. Related experience must include six months of Middleware Technology: Microsoft SOL Server and Development languages: Microsoft Visual Basic, Active Server Page (ASP), COM, JavaScript and XML.

Please send your resume, referencing Job Order Number **WEB 405010** to the: PA CareerLink, FLC Unit,235 W. Chelten Ave., Philadelphia, PA 19144. EOE.

Trustek, Inc. Consulting firm is seeking Software Engr. w/MS & min. 1 yr. exp. or equiv. & Prog. Analyst w/BS & 2 yrs. exp. or equiv. Travel/Relo required anywhere in US.

C, C++, NT, UNIX, Shell, Sybase, .Net Studio, VB.Net, ASP.Net, SOL Server, JavaScript, VBScript, CORBA, HTML/DHTML, ASP, CSS, COM/DCOM, COM+, Crystal Reports, Architecture, Erwin, Developer 2K, PL/SOL, SOL* Plus, Forms, Reports, Designer 2K, Modeling, Java, JSP, XML, XSL, J2EE, EJB, WebSphere, WebLogic, UML, Rational Rose, JDK, DataWarehousing, ETL, OLAP, Informatica, Cognos, Brio, Business Objects, SUN, Solaris, HP-UX, Veritas, EMC, SAN, OpenView, Oracle Clinical, ClinTrial, SAS, FDA regulations, Validations, Oracle Applications, nOuery, PeopleTools, PeopleCode, PeopleSoft, SAP R/3, SapScript, SmartScript, IDocs, ALE, EDI, BASIS, ABAP, BW, APO, SEM, SCM, ITS, Adaytum, Cognos Business Suite.

Applicant should also have exp. in interface w/hardware & software, provide functional implementation, config. train, analyze, implement, code, test, backup, install, manage, customize, tuning, AS-IS study, Internet/Intranet applications, stored procedures, triggers. Create database tools, tables, files, roles, indexes, space management and re-organize. Apply w/ resumes to Attn: Recruiter, 2 Ethel Road, Suite 202-C, Edison, NJ 08817.

Software Engineer wanted to analyze software rqts. & produce functional specification documents & implement software; create test specs for new subsystems; analyze & reengineer software legacy system; provide mgmt. w/effort estimations, implementation trade offs, security implications & software performance analysis; provide tech. leadership on N-Tier development involving web based front end, business logic components developed in Microsoft Visual Basic & Microsoft Visual C++, & back end database server; design & implement database & table structures, middle tier business logics w/ COM+ objects using VC++ & Visual Basic, & front-end for web based applications using ASP, XML, XSL, JavaScript & DHTML; client-side development, incl. client-side APIs to communicate w/ web servers w/o using web browsers; integration of Configuration Management Tools w/ a web server; integrate Microsoft Office Tools w/ a web-based application; use UML Modeling tools like Rose/Rhapsody to design complex software models; develop & maintain a reverse eng. tool for COM components, converting these components to UML design structures; develop & maintain CORBA & Real Time CORBA adapters for UML based code generator; assist customers & customer support team. Must have Bach. deg. or equiv. educ. in Comp. Sci. or related field & 2 yrs. exper. designing & developing web & client service apps. using ASP, Visual Basic, XML, DHTML, & bldg. object oriented solutions using VC++, & incl. exper. in integrating applications w/ SCC tools, & w/ MS SQL Server & proficiency w/ COM & Type Libraries & revise engin. of COM components, as well as w/ WindRiver's Real Time IDE (both for VxWorks & VxSim). Salary $74,000/yr. Send 2 resumes to Case # 200203976, Div. of Career Services, Labor Cert. Unit, 19 Staniford St., 1st Fl., Boston, MA 02114.

Network Administrator: Install, upgrade & support company LAN, WAN & electronic medical data communications system. Maintain network hardware & network OS. Req. Bachelor's in CS, CIS or related field, no exp. req. but must demo ability to perform duties through course or project in Database Management. Resume w/ transcript to HR Director, Wellcare Medical, P.C., 41 Mott St, 3Fl., New York, NY 10013.

Sr. Systems Administrator wanted by Garment Import/Distribution Firm in Manhattan. Must have Masters in Comp Engg or Comp Sci & 4 yr s/ware exp. Fax resume to: 212-290-8176.

IT PROFESSIONALS:

Senior Consultant

POSITION: (Glen Mills, PA and other locations throughout the United States) Utilize Object modeling techniques and methodologies with such tools as Rational Rose to design and develop N-tier architecture systems. Responsible for architecting EAI (Enterprise Application Integration) solutions and middleware environments and development using various middleware solutions such as IBM MQ-series, JMS (Java Message Service), EJB's (Enterprise Java Beans) and BEA Web Logic Application Server. Responsible for the design and development of Siebel 7.0 EAI adapters and integrating it with middleware tools such as IBM MQ-series. Develop modules in Object oriented programming languages Java - J2EE using JMS, RMI (Remote Method Invocation), EJB, JDBC (Java Database Connectivity) and C++ and integrated the modules with various RDBMS (Oracle, Informix). Responsible for overlooking various stages of Software development lifecycle including system analysis, design, development and implementation. Responsible for developing processes for implementing SEI-CMM (Capability Maturity Model) Level 5 Key Process Areas and implementation of key quality assurance processes at the project level.

The wage offered is $78,110/year. The work schedule is Monday-Friday 9:00am-5:00pm. The minimum requirements are as follows: Bachelor's degree or equivalent* in Business Administration, Engineering (any), Communication, Electronics, Information Systems + 4 years experience in the job offered or 4 years experience as a Senior Consultant, Consultant, Web Developer, Systems Engineer, or Assistant Systems Engineer. Related experience must also include 2 years of Object modeling (Rational Rose and Rational Unified Process), EAI Solutions and middleware solutions (TIBCO, IBM MQ-Series, JMS, EJB's and Web Logic Application-server), Seibel, Java, C++, SEI-CMM Level 5 (Capability Maturity Model), and Oracle, Informix. *Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determine by an accredited institution of higher education in the United States.

Please send your resume, referencing Job Order Number WEB406247 to the: PA CareerLink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE.

Programmer Analyst w/exp in Front page/Visual studio, Access, MySQL, MS SQL, XSL, Macromedia Suite, MS projects, & Visio. Perform web/business Applic. Using Visual Interdev/ Macromedia Dreamweaver, cross browser, cross platform issues using DHTML, Dom Architecture, CSS. JavaScript & HTML. Mail resumes to: US Telemanagement LLC, 21 Sperry Avenue, Stratford, CT 06615.

Web Integration Specialist

To use web-related technologies such as ASP, JSP, XML and .NET framework components to develop and update current version software for clients, to develop Data-Driven web site and convert from windows based to web based applications and to develop web based and Win 32 based crystal reports. Req. a minimum of Bachelor in C IS or a related field, and proficiency in ASP, JSP, XML and .NET framework components. 40hrs/wk. Send resume to HR at U. S. Cost, Inc. 1200 Abernathy Road, #950, Atlanta, GA 30328. Fax: 770-481-1640.

IT PROFESSIONALS:

Manager

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Design, architect and implement a leading edge portal application including BroadVision One-To-One Enterprise, Vignette Application Portal (formerly Epicentric), BEA Weblogic Server, or Websphere to build the enterprise portal, with specialized expertise around State run portals functionalities and constraints. Implement architecture design involving intra/inter-enterprise integration, backend integration, batch processes, data conversion and adaptors implementations using tools included in portal applications. Design, architect and implement content management systems to build centralized content archive, publishing, editing systems. Responsible for the implementation and maintenance of system templates for data entry, workflows for content approval and submission, presentation modules for data presentation and previews Content Management Systems. Utilize Content Management Systems (Interwoven, Vignette or Stellant) with build-in adaptors to submit data to various relational database management systems (RDBMS), Oracle 8i, and knowledge management systems. The wage offered is $97,000 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Computer Science, Engineering (Any), Telecommunications, Math, Information Systems or Business Administration + 5 years of experience in the job offered or 5 years of experience as a Manager or Systems Administrator. Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determined by an accredited credentials evaluation service. Related experience must include at least 2 years of experience with portal applications (any of the following web applications: BroadVision, Epicentric, BEA or Websphere) and Content Management Systems (any of the following: Interwoven, Vignette or Stellant).

Please send your resume, referencing Job Order Number WEB406202 to the: PA Careerlink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE.

Programmer: Design, implement, and test embedded systems. Redesign and implement the new systems in OO style on ONX or embedded Linux. Implement system device drivers in Assembly language. Provide Database support with SQL Server 2000 and Access. Req. MS or equivalent in CS with proficiency in C++, Embedded Linux, SOL Server 2000, SDL, and CMM. 40 hr/wk, 9-5. Send resume to Cadillac Jack, Inc. at 2420 Meadowbrook Parkway, Duluth, GA 30096

Advantica, Inc. seeks Software Developer in our Carlisle loc. Design, dev + maintain software applics, user interfaces + relational databases within project guidelines. Work in team env. with technologies incl internal Solver component tech, MS Vis Bas, C++, Java + other OO software devt languages. Advise group mgmt. re new software devt, eng'g, geospatial, + numerical solutions technologies + industry trends. Must have BS in Comp Sci, Geospatial Info, or related field + 1 yr relevant exp. Resume to Heather Eickhoff, Advantica, PO Box 86, Carlisle, PA 17013.

IT PROFESSIONALS:

Manager

Position: (Glen Mills, Pennsylvania and other locations through the U.S.)

Responsible for Treasury - Corporate Finance SAP consulting engagements utilizing different modules of the SAP R/3 system comparing them to other similar systems within the Financial Services Industry. Provide information technology solutions for administrative functions such as Cash Management, Treasury Management and Loans Management. Familiar with Financial Accounting functionality and configuration including General Ledger, Bank Accounting, Accounts Payable and Accounts Receivable. Set General Ledger accounts, Customers and Vendors, House Banks and Bank Accounts, financial accounting Document Types, Electronic Bank Statement functionality, Automatic Payment Program, and Lockbox functionality in the system. Involved in Treasury and Corporate Finance Management functionality and configuration including Cash Management, Money Market, Foreign Exchange, Derivatives, Securities, Loans Management, Market Risk Management, Inhouse Cash and Limit Management. Set Cash Position, Liquidity Forecast, investment Product Types, Transaction Management, Valuation rules for accounting and mark-to-market purposes, Investment, Debt and Derivative Accounting rules and financial Market Data in the system. Implement system methodology by determining scope, identifying gaps in functionality and common issues, mapping and documenting business processes, designing system configuration, documenting and executing unit and integration tests, preparing training materials and planning training sessions and planning post-implementation support. Participate in corporate cash management process and capital markets and financial securities processing. Knowledge of accounting principles which apply to Debt and Financial Assets, as well as market risk management function including the determination of sources of risk at a transactional level and the hedging strategy.

The wage offered is $109,677 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree in Computer Science, Engineering (any), Math, Information Systems, Business Administration or Finance + 5 years of experience in the job offered or 5 years of experience as a Manager, Senior Consultant or Account Executive. Related experience must include at least three years of consulting within the Financial Services Industry utilizing SAP R/3, Treasury and Corporate Finance Management, Corporate Cash Management Processing, Capital Markets and Financial Securities Processing, Accounting Principles relating to Debt and Financial Assets and Market Risk Management Function.

Please send your resume, referencing Job Order Number WEB406468 to the: PA CareerLink, FLC Unit, 235 West Chelten Avenue, Philadelphia, PA 19144. EOE.

ASP.NET Developer: Web app. Development including database, business object and presentation layer design and programming. Maintain web apps. used in Judicial Agencies. Position requires developing dynamic government/commercial web sites using C#, ASP.Net, XML, SOL, and migrating existing ASP sites into ASP.Net. Req. BS or equivalent in CS with 9 months exp in job offered or as Web Developer. Must be proficient in ASP.NET, C#, XML, SOL, and JavaScript. 40 hr/wk, 9-5. Send resume to Advanced Computer Technologies at 600 S Court St. Montgomery, AL 36104.

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IT PROFESSIONALS:

Manager

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Provide recommendations to client and staff for technical designs, analyses and technical architecture of web based applications. Design a Framework for development. Establish a methodology for Software development. Manage the infrastructure build activities (e.g. LAN, WAN, Server, Database, Desktop). Develop comprehensive testing plans. Define the plan deliverables (implementation plan, work plan, resource plan, budget, business case). Apply design and modeling patterns in Java , JSP, Servlets , Java beans and J2EE technologies. Develop Portals using J2EE and Java technologies. Integrate various applications using Java Middleware and various remoting technologies including EJB (Enterprise Java Beans), RMI (Remote Method Invocation), SOAP (Simple Object Access Protocol), UUDI (Universal Description, Discovery and Integration), Web services, JMS (Java Messaging Services), JDBC, Java Data Objects. Design and develop load-balanced , scalable Architecture for Enterprise Applications built on clusters of Application Servers including IBM WebSphere, BEA Weblogic and web servers (Tomcat , Apache, iPlanet and IIS). Design and develop SOL queries. Store procedures and database creation in Oracle and MS-SOL Servers. Select appropriate tools/software/hardware and customize them to meet specific project and client requirements. Manage relationship with Vendor partner consultant. Define the plan deliverables (implementation plan, work plan, resource plan, budget, business case).

The wage offered is $73,424 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Computer Science, Math, Engineering (any), Information Systems or Business Administration + 5 years of experience in the job offered or 5 years of experience as a Senior Consultant, Consultant, Manager, Programmer or Systems Analyst. Related experience must include technical implementation and development of web based applications utilizing J2EE and Java technologies such as JSP, Java Servlets, EJB, RMI, JDBC, and Java Beans. Employer will deem foreign educational credentials evaluated by an evaluation service to be the equivalent of a U.S. degree.

Please send your resume, referencing Job Order Number WEB406664 to the: PA Careerlink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE.

Project Manager - Financial Software

Duties include foreign currency conversion, working knowledge of Crystal Reports, SOL/Clarus PeopleSoft, and Project Management. Applicants must have Bachelor's or equivalent (education, experiential, or combination of education and experience equivalent is acceptable) in MIS or related field and experience in the job offered, finance, financial auditing, or accounting.

For Confidential consideration, please submit resume along with salary history to Cindy Rose, PHR @ ADESA Corporation, 13085 Hamilton Crossing, Carmel, IN 46032.

No agencies or phone calls please.

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IT PROFESSIONALS:

Consultant

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Responsible for the analysis, design, development, and implementation of Product Information and Lifecycle Management (PILM) solutions based in a Windchill platform for business clients. Design, develop, and enhance various components of Windchill-based Product Information and Lifecycle Management system. Responsible for architecting solutions to improve the process of client solution deployment and component management, as well as gathering and analyzing client requirements and designing Windchill Solutions. Involved in the selection, installation, and configuration of hardware and software components, as well as the identification of data requirements, process requirements, and integration requirements. Responsible for engaging in Windchill customization utilizing Oracle, Java, and UML (Unified Modeling Language), as well as product configuration management, change management, document management, sourcing factor, and Info Engine. Involved in the installation, configuration, testing, data migration, deployment, and support of solutions. Responsible for Windchill functionality, implementation methodology, and customization standards.

The wage offered is $78,000 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Computer Science, Math, Information Systems, Engineering (any) or Business Administration + 2 years of experience in the job offered or 2 years of experience as a Consultant or Implementation Consultant. Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determined by an accredited credentials evaluation service. Related experience must include Product Information and Lifecycle Management (PILM), Windchill Solutions, Oracle, Java, and UML (Unified Modeling Language).

Please send your resume, referencing Job Order Number WEB406372 to the: PA Careerlink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE

Sr. Prog/Analysts to manage teams to analyze, design, maintain appls using Java, HTML, VB, ASP, MS Access etc under UNIX/Windows os; create/modify business documents using Smart Forms and SAP Script; analyze business processes to determine reqts; implement appls, perform strategic planning and operations support; provide end user training. Require a B.S. or foreign equivalent in CS/Engg (any branch) with 3 yrs exp in IT. High salary. F/T. Travel involved. Resume to HR, Smartsoft International, Inc., 4898, South Old Peachtree Rd, Norcross, GA 30071.

Senior Great Plains Consultant - analyze, design, test & implement Microsoft Great Plains Software for clients; analyze client business requirements & determine how the software can best meet those requirements; conduct training sessions for clients; provide pre- & post-sales customer support; duties require exp. w/ Microsoft Great Plains Software, SOL Server, Visual Basic, FRx, Crystal Reports & Windows 98/00/NT. Requires BS in computer science, business administration or accounting plus 5 YR related exp. Mail resumes to Aston Business Solutions, ATT: Melissa Wilhelm, 7050 Jomar Drive., Whitmore Lake, MI 48189.

IT PROFESSIONALS:

Senior Consultant

POSITION: (Glen Mills, PA and other locations throughout the United States). Design and architect the business object framework using Object Oriented Methodology. Design and develop the business object architecture conforming to best practices for J2EE (Java 2 Enterprise Edition) technology. Responsible for the design and development of Java Server Pages (JSP's), Java Servlets and Enterprise Java Beans (EJB's) to depict the business objects to deploy them onto BEA's Weblogic Server. Setup, configure and administer the BEA Weblogic Server and configure the servers to perform as a cluster. Responsible for testing Load Balancing and failover capabilities of the BEA Weblogic Server. Implement Interwoven Team Site Content Management System to develop and redesign enterprise content management solutions. Responsible for developing creation of content management workflows and roles applicable to corporate organization structure. Design and develop data loading and processing framework supporting multiple databases such as Oracle Informix and Microsoft Access. Responsible for identification of multi-format external data feeds, data modeling and loading into Oracle using SOL Loader (ETL tool).
The wage offered is $98,226/ year. The work schedule is Monday-Friday 9:00am-5:00pm. The minimum requirements are as follows: Bachelor's degree or equivalent* in Comp Science, Engineering (any), Business Administration, Information Technology or Mathematics + 4 years experience in the job offered or 4 years experience as Senior Consultant, Consultant, Systems Architect or Analyst. Related experience must also include at least 2 years of Object Oriented Design, J2EE, BEA Weblogic Server Administration, Oracle, and ETL tools (Extract, Transform, Load). *Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determined by an accredited credentials evaluation service.

Please send your resume, referencing Job Order Number **WEB405098** to the: PA CareerLink, FLC Unit 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE

ObjectWin is looking for Programmer/System Analyst or other IT professionals. Applicants must have BS or equivalent. Skills in ASP.Net, B2B, VB, Java, HTML, VB.Net, XSL, CSS, MS CMS, SSL & MS certified preferred. Competitive wage. Apply at skarande@objectwin.com. EOE. No calls.

Techgene Solutions has openings for System Analysts or Software Engineers. Candidates must have BS with experience. Prefer skills in Cobol, JCL, Oracle, SQL, VB, C/C++. Travel may be required for some positions. Competitive salary. Please apply at info@techgene.com. No calls. EOE.

Multimedia Web Developer. Consults w/ design, technical, & marketing staff to plan web site dev. Develops graphic & technical architecture of web sites including database design & user interface design. Req Bach. in Advertising or Related Field & 1 yr. of exp. in job or 1 yr. of exp. as a Graphic Designer/ Visualizer. Send Resume: Steven Cohen, Tempart, Inc., 412 SE 13th St., Fort Lauderdale, FL 33316 (jobsite).

IT PROFESSIONALS:

Manager

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Oversee multiple technical engagements including major projects. Formulate and define systems scope and objectives for engagements. Drawing on full technical knowledge of all phases of applications systems analysis and programming as well as knowledge of the business or function for which the application is designed, the Manager will be responsible for directing systems analysts and programmers on engagements and ensuring quality control. The manager will facilitate design sessions and assist client technical architects with the technical design documents (TDD's). Will be responsible for designing and prototyping utilizing SAP APO and SAP R/3 software for Supply Chain Management. Will be responsible for directing systems analysts and programmers on engagements and ensuring quality control. Will actively participate in complex proposals, development and sales presentations. Will contribute to engagements to produce results within budget and timing constraints.

The wage offered is $122,500 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Computer Science, Math, Engineering (any), Information Systems or Business Administration + 6 years of experience in the job offered or 6 years of experience as a Senior Consultant, Process Engineer, System Analyst, Programmer, Production Planner, Production\Systems Controller. Employer will accept 5 years of progressively responsible work experience in a related field as sufficient to satisfy the degree requirement. Related experience must include at least three year of experience in SAP R/3 and at least one year of experience in SAP Advance Planner and Optimizing (APO).

Please send your resume, referencing Job Order Number WEB406425 to the: PA Careerlink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE.

Systems Analysts to work as consultants at client sites in the U.S. and abroad. Imprint, customize & upgrade Oracle ERP s/ware pkgs. Reqs: BA/BS in Comp Sci, Eng'g, Bus, Logistics, HR, or related field + 2 yrs exp w/Oracle Apps or DB's. Send resumes, refs, and salary req's to Attn: HR, IT Convergence, 150 E. Gilman St, Suite B2200, Madison, WI 53703 or resume@itconvergence.com.

Infogen is seeking IT professionals. Req. BS. Skills in following area are plus: Oracle9i, Weblogic / WebSphere, C++, Visual C++, VB, COM, STL, MTS, MSMQ, ASP, Java, HTML, XML, MTS, MSMO, ADO, UML. Travel is required. Send resume to infojobs@infogeninc.com. EOE.

Workforce Software has openings for S/W Engineer, IT Professionals to develop Time & Attendance software using Java, SOL, Servlet, JavaScript, JSP, Oracle, HTML. Min req is BS or equivalent with skills of SQL, Servlet, JavaScript. Pls contact info@workforcesoftware.com. EOE. No calls.

IT PROFESSIONALS:

Manager

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Analyze, design & implement integrated customer & product profitability solutions, focusing on the needs of leading telecom and financial services clients, combining methodologies & tools in the areas of Data Warehousing, Customer Relationship Management (CRM) & Activity Based Costing (ABC) using the OROS application. Analyze relevant expenses, components of the activity value chain & structure of the product & client hierarchy. Develop methodology to allocate costs from the resource to the identified activities. Manage the design & development of model structure, data loading & creation of validation reports using OROS & other ABC tools. Lead full lifecycle Data Warehousing development using relational & multidimensional databases & data transformation tools. Design & implement reporting architectures & solutions using On-Line Analytical Processing (OLAP) tools. Perform predictive statistical modeling to analyze customer segments, churn, campaign management & cross-selling strategies using Ouadstone & SAS data analysis & data mining product suites. Develop client relationships, write internal methodologies & presentations, interact with alliance partners & research industry & technology developments.

The wage offered is $118,000 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Computer Science, Math, Engineering (any), Information Systems or Business Administration + 4 years of experience in the job offered or 4 years of experience as a Senior Consultant, Consultant, or Systems Analyst. Related experience must include 1 year in Activity Based Costing, OROS ABC, Ouadstone's Data Mining, On-Line Analytical Processing (OLAP), and Customer Relationship Management (CRM). Must have experience in the financial services industry. Position may require extensive travel up to 100%.

Please send your resume, referencing Job Order Number **WEB405157** to the: PA Careerlink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE.

Programmers & Software Engineers: Analyze, design, develop apps., in: (A) Vertex, Goldmine, Lawson Financials, Oracle/SQL Server 2000; (B): Oracle and related tech., SAS & related SAS tools, Proc Format, Metadata, Cognos, Dataminer. Oracle/ SAS Cert. preferred. Attn: Chet Patel, 120 Bluegrass Parkway, Alpharetta, GA 30005.

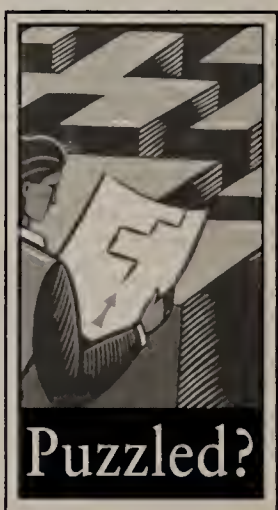
Computer Security Coord. in Kissimmee, FL. Develop computer programs for med ofc applics. Implem security measures to safeguard info against unauth'zed modif. or disclosure. Ensure security, efficiency & uniformity of systems for all area locations. Provide training & user support svcs. Est. emergency data processing & data retrieval plan. 8:30am-5:30pm, M-F. B.S. in Comp. Engg, or equiv., 2 yrs exp. in position or as Prgrmr/Analyst req'd. Send/ Fax resume to: BVL Family Practice & Specialty Ctr, Fax #: 407-348-5573. ATTN: Diana.

IT PROFESSIONALS:

Manager

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Responsible for managing consulting projects involving the provision of SAP Business Intelligence solutions as well as IES (Integrated Enterprise Solutions) within the Technology practice. Formulate and define scope and objective of engagements and provide managerial guidance and support to lower level project staff members (10-15) involved in data warehousing, SAP R/3 implementation (including data structures and information systems) in the areas of FI/CO (Logistics and/or Finance Controlling). Utilize functional expertise of SAP implementations with a particular focus on the implementation of SAP BW (SAP Business Warehouse) including FI/CO, MM (Materials Management), PP (Production Planning) and SD (Sales and Distribution) modules as well as experience with SEM (Strategic Enterprise Management). Apply knowledge of SAP delivered content and custom development (custom extraction and cube design) as well as third party data extraction tools and ITS and BW web reporting to effectively carry out engagements for national and multinational clients.

The wage offered is $150,000 per year. The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Computer Science, Math, International Finance, Information Technology or Business Administration + 5 years of experience in the job offered or 5 years of experience as a Manager (any), Senior Consultant, Consultant or Coordinator (IT). Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determined by an accredited credentials evaluation service. Related experience must include at least 2 years of functional experience in SAP implementations providing SAP Business Intelligence solutions with a specific focus on SAP BW implementations, including FI/CO, MM, PP or SD modules, as well as SAP R/3 systems. Please send your resume, referencing Job Order Number **WEB405192** to the: PA Careerlink, FLC Unit 235 W. Chelten Avenue Philadelphia, PA 19144. EOE.



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Software Engineer-Develop, create, modify computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Internet Applications & Internet Software. Bachelor's degree or foreign equiv or equiv combination edu & exp. Degree must be in CS/CA, Eng., Chem., Math, Physics, or scientific/business field. Must have 1 yr exp. using HTML, IIS, SQL Server & Visual Basic. Extensive travel, frequent relocation required. $66,800/yr 40 hrs/wk. EEO/AAP/M/F/V/H Submit resumes to Manager, Cutler County CareerLink, Pullman Commerce Center, 112 Hollywood Dr, Suite 101, Butler, PA 16001-5699 Job Order No WEB407907

Software Engineer-Develop, create, modify computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Graphical User Interface (GUI) & Int. Apps. Bachelor's degree or foreign equiv. Will accept 3 yrs undergrad study & 3 yrs exp as a computer professional in lieu of Bachelor's degree. Degree must be in CS/CA or Eng. Must have 1 yr exp. using UNIX, Oracle, C++ & Visual C++. Extensive travel, frequent relocation required. $66,800/yr 40 hrs/wk. EEO/AAP/M/F/V/H Submit resumes to Site Manager, Armstrong County CareerLink, 1270 N. Water St, PO Box 759, Kittanning, PA 16201-0759 Job Order No WEB407895

Multiple openings for software engineers to design, develop and test computer programs for business applications; analyze software requirements to determine feasibility of design; direct software system testing procedures using expertise in VB.NET, SQL, ASP.NET, C#, PVCS and XML. Requirements: Bachelor's Degree, educational or functional (3 years experience=1 year college) equivalent in Computer Science or related field and two years experience as a software engineer or computer programmer, knowledge of VB.NET, SQL, ASP.NET, C#, PVCS and XML. Salary: $70,242/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: BECS/CareerLink Program Supervisor, Indiana County CareerLink, 300 Indian Springs Road, Indiana, PA 15701, Job No. WEB408229.

SAIC seeks qualified Software Application Engineers (job code SAE-04), Software Design Engineers (job code SAD-04), Programmer Analysts (PA-04), Systems Analysts (SA-04) and Web Developers (WD-04) to work out of various SAIC locations in U.S. Positions require travel for short and long-term project assignments. Send resume to Amanda Whorton, Amanda.R.Whorton@saic.com. Must reference job code in subject line. EOE.

Software Engineer-Develop, create, modify computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Oracle, HTML, Windows, Java, JavaScript, SQL & related software. Bachelor's degree or foreign equiv in CS or related field. Must have I yr syst exp (syst eng, DBA or related field). Must have exp using Oracle, HTML, Windows, Java, JavaScript, SQL. Extensive travel, frequent relocation. $66,800/year, 40 hrs/wk EEO/AAP/M/F/V/H Submit resumes to Site Manager, Beaver County CareerLink, 2103 9th Ave, Beaver Falls, PA 15010-3957 Job Order No WEB407898

Database Administrator-Design, create, install & support operating syst. Administer & configure network. Patch/upgrade syst software & licensed products. Responsible for migration & porting of apps across operating syst & platforms. Manage back up/recovery, performance tuning & disaster recovery. Will accept Bachelor's degree or foreign equiv or equiv combination edu & exp, in CS/CA, Eng, Chem, Math, Physics, or scientific/business field. Must have 1 yr exp with UNIX, IBM AIX, Sun Solaris. Extensive travel, frequent relocation required. $59,537/yr 40 hrs/wk. EEO/AAP/M/F/V/H Submit resumes to Fayette County CareerLink ATTN: CareerLink Program Supervisor, 135 Waylan Smith Dr, Uniontown, PA 15401 Job Order No WEB407889

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Software Engineer-Develop, create, modify computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Enterprise Resource Planning (ERP) & related software. Bachelor's degree or foreign equiv. Will accept 3 yrs undergrad. study & 3 yrs exp as computer professional in lieu of Bachelor's degree. Degree must be in CS/CA, Eng., Chem., Math, Physics, or scientific/business field. Must have I yr exp using SAP, BAAN, PeopleSoft, Oracle Applications/Financials/Manufacturing/HR. Extensive travel, frequent relocation required. $66,800/year, 40 hrs/wk EEO/AAP/M/F/V/H Submit resumes to McKeesport Career-Link ATTN: ES Manager, 345 5th Avenue, McKeesport, PA 15132-2600 Job Order No WEB407939

Software engineer to design, develop and test computer programs for business applications; analyze software requirements to determine feasibility of design; direct software system testing procedures using expertise in Instinet, FIX, TCP/IP and Oracle. Requirements: Bachelor's Degree or equivalent in Computer Science or related field and two years experience as a software engineer or computer programmer, knowledge of Instinet, FIX, TCP/IP and Oracle. Salary: $70,242/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: Fayette County CareerLink, Attn: Career Link Program Supervisor, 135 Waylan Smith Drive, Uniontown, PA 15401, Job No. WEB406184.

Software Engineer-Develop, create, modify computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Oracle CRM & related software. Bachelor's degree or foreign equiv Will accept 3 yrs undergrad study & 3 yrs exp as a computer professional in lieu of Bachelor's degree. Degree must be in CS/CA or Eng. Must have 1 yr exp. using Oracle CRM. Extensive travel, frequent relocation required. $66,800/yr 40 hrs/wk. EEO/AAP/M/F/V/H Submit resumes to BECS/CareerLink Program Supervisor, Indiana County CareerLink, 300 Indian Springs Rd, Indiana, PA 15701 Job Order No WEB407923

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Software Engineer-Develop, create, modify computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Internet Applications & Internet Software. Bachelor's degree or foreign equiv Will accept 3 yrs undergrad study & 3 yrs exp as a computer professional in lieu of Bachelor's degree. Degree must be in CS/CA, Eng. Must have 1 yr exp. using 2 of A & 1 of B, or 2 of A & I of C: A) ASP, HTML, CCGI, PERL, MTS, IIS B) JAVA, JAVASCRIPT, JAVABEANS C) COLDFUSION, BROADVISION, ATG DYNAMO, NET DYNAMICS, WEBSPHERE, FRONT PAGE. Extensive travel, frequent relocation required. $66,800/yr 40 hrs/wk. EEO/AAP/M/F/V/H Submit resumes to Site Administrator, Greene Coutny CareerLink, 4 W. High St, Waynesburg, PA 15370-1324 Manager, Armstrong County CareerLink, 1270 N. Water St, PO Box 759, Kittanning, PA 16201-0759 Job Order No WEB3407914

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ENGINEER-HELP 24

Develop quality solutions for customer reported software problems. Executes sound unit and integration test scenarios for reported problems resulting in software modifications. Analyzes results of tests to ensure quality code solution. Provides technical assistance to other team members in the research and analysis of product issues. Attends meetings with organizations to discuss problem resolutions. Provides information to management, lead and team members regarding customer reported problems. Participates in code reviews/inspections of new development and existing product. Experience in Base 24 customer software support required. Help desk experience highly desirable. Bachelor's degree or equivalent in Computer Science/Engineering. Two years of experience in job offered or related occupation. 40 hours per week, 8:00 a.m. to 5:00 p.m, $56,000.00/year. Must have proof of legal authority to work in the United States. Send your resume to Madhavi Bhadbhade, Nebraska Department of Labor, P.O. Box 94600, Lincoln, NE 68509. Refer to Job Order TREL5-XDNE5-47956. This advertisement is paid for by the employer.

Software engineer to design, develop and test computer programs for business applications; analyze software requirements to determine feasibility of design; direct software system testing procedures using expertise in Visual Studio, Oracle, IIS and Tomcat. Requirements: Bachelor's Degree or equivalent in Computer Science or related field and two years experience as a software engineer or computer programmer, knowledge of Visual Studio, Oracle, IIS and Tomcat. Salary: $70,242/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: Manager, Butler County CareerLink, Pullman Commerce Center, 112 Hollywood Drive, Suite 101, Butler, PA 16001, Job No. WEB406745.

PRODUCT MANAGER, VECTOR

ACS State and Local Solutions has a current opening in its Rockville, MD, office for a Senior Product Manager, VECTOR.

This individual will be responsible for managing the VECTOR product line and services including developing comprehensive product roadmaps, conducting vendor analysis, participating in product release planning, managing product development and expansion and providing business development support, utilizing technologies including OpenVMS, HP-UX, Rdb, Oracle DB, Sun Universal Development Server (UDS), ClearCommerce payment processing, XML and BEAS Message Queue. Must manage the analysis and documentation of VECTOR product, including business requirements and limitations and recommend solutions. Will determine product scope and objectives. Will also manage subordinate managers and professional technical staff. Expected to participate in trade shows, review Request for Proposals (RFP), liaise with external vendors and develop presentations of proposals to clients.

This position requires a Bachelor's in an Engineering or Computer Science discipline, 6 years of combined experience in managing software development teams, product definition and architecture and leading the planning and management of software products. Prior experience must include at least 6 years of direct experience leading the development of technical solutions for the Electronic Toll Collection (ETC), Call Centers, and Financial Processing/Settlement industries.

To be considered for this position please go to www.acs-inc.com , Career Opportunities, Current Openings, Rockville, MD, and click on Senior Product Manager, VECTOR, SL-TSS-TCC 22089, to apply on-line.

Software Engineer-Develop, create, modity computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Relational Database Management Systems (RDBMS) & related software. Bachelor's degree or foreign equiv. Will accept 3 yrs undergrad study & 3 yrs exp as computer professional in lieu of Bachelor's degree. Degree must be in CS/CA, Eng., Chem., Math, Physics or scientific/business field. Must have I yr exp using Informix, Oracle, FoxPro, Sybase, SQL Server or Progress. Extensive travel, frequent relocation required. $66,800/yr 40 hrs/wk. EEO/AAP/M/F/V/H Submit resumes to Mon Valley Regional CareerLink ATTN: Actg. CL Program Supervisor, Donora Industrial Park, 570 Galiffa Dr, Donora, PA 15033 Job Order No WEB407929

SOFTWARE ENGINEER to design, implement, integrate, verify, deploy, support and extend mobile applications using C, C++, J2ME and Java on Symbian, RTOS and Windows environments, as well as GPRS/GSM/EGPRS Simulators, Logic Analyzers, Cellular radio technology, and Standards and Mobile terminal architecture; Handle, analyze and report Customer requirements; Provide technical guidance and support to marketing and management. Require: B.S. degree in Computer Science, an Engineering discipline, or a closely related field with 3 yrs of exp in the job offered. Competitive salary offered. Apply by resume to: Debbie Greer, Panasonic Mobile Communications Development Corp. of USA, 1225 North Brook Pkwy., Suwanee, GA 30024; Attn: Job HT.

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Quest

other defecting group is made up of companies in the real estate industry.

In December, PeopleSoft severed its relationship with Quest, which the company inherited as a user group when it acquired J.D. Edwards last summer. After talks between the two sides broke down, PeopleSoft opted not to participate in several regional Quest meetings as well as the user group's centerpiece event, the Quest Global Conference, which is due to be held in Denver in June [QuickLink 43921].

PeopleSoft's lack of support for Quest played a big role in convincing members of the two special-interest groups to leave, said Dave Hyzy, director of IT at Benderson Development Co. in Buffalo, N.Y. "The unalterable fact is that a software conference without the software vendor present is a social event pretending to be a substantive conference," he said.

Benderson uses PeopleSoft World, and Hyzy is a member of both the World Advisory Council and the Real Estate Group. He said PeopleSoft has already taken "solid initial steps" to start the process of bringing the special-interest groups under its umbrella.

Not 'All or Nothing'

John Matelski, a Quest board member and president of the Lexington, Ky.-based organization's special-interest groups, said that despite the dispute with PeopleSoft, Quest encourages its members to engage in an "integrated" model that includes working with the vendor. "It does not need to be an all-or-nothing proposition," said Matelski, who is deputy CIO for the city of Orlando.

But Matelski and several other Quest members said they think PeopleSoft wants the user group to wither. They claimed that PeopleSoft is forbidding its employees from participating in any Quest-related activities and is offering Quest members a special discount to attend its Connect user conference, which is scheduled for September in San Francisco.

"Most of the passive and active actions which PeopleSoft has taken since December would seem to give credence to the claim that PeopleSoft is actively trying to kill Quest," Matelski said.

PeopleSoft spokesman Steve Swasey said the company is offering Connect discounts to J.D. Edwards users and other first-time attendees. Swasey added that he doesn't think there's a formal ban on PeopleSoft employees attending Quest events, but he acknowledged that the software vendor is focusing its resources on Connect.

"We don't recognize Quest," Swasey said. "They have a different model. We don't think users should pay an additional fee to join the user group." He said PeopleSoft has worked with users in the aftermath of the J.D. Edwards acquisition to put together an integrated user-group structure that's designed to "give all 12,000 [customers] more and better access to us."

Quest officials have said that members of the user group took part in the integration planning effort. But Dave Richards, who chairs the user committee that's planning the Quest Global Conference, downplayed Quest's involvement in the process.

"From the Quest side, it's disappointing and baffling why they didn't include Quest in the whole [user group] transition more," he said. "In the past, we had a strong relationship with J.D. Edwards and worked together to find solutions to problems, and I think that link is missing." Richards is CIO at Pacific Steel & Recycling Inc. in Great Falls, Mont.

Quest officials said that the user group is doing well financially and that it has reached 97% of its targeted membership renewals, with three months to go.

But some members aren't sure Quest can continue to thrive for long without PeopleSoft's support. "I think they're close to breaking the user group," said Gary Riley, a systems analyst at Matanuska Telephone Association Inc. in Palmer, Alaska. **46121**

Quest Facts

CLAIMED MEMBERSHIP: About 15,000 individual and corporate members worldwide

OPEN TO: Any PeopleSoft users with current software licenses

MEMBERSHIP COSTS: Up to $300 per year for individual members in North America or $1,400 for a corporate membership covering five people

CONNECTION TO PEOPLESOFT: Fully independent and "neither acknowledged by nor affiliated with PeopleSoft," according to the group's Web site

PeopleSoft Lets Anti-takeover Refund Offers Lapse

PeopleSoft has quietly pulled the plug on a program under which it offered to pay refunds to new and upgrading users if the company was acquired and the new owner discontinued the products that the customers had licensed.

PeopleSoft spokesman Steve Swasey confirmed that the software vendor's board decided at the end of the first quarter to let the so-called customer-assurance program expire, at least temporarily. PeopleSoft started including the refund offers in its customer contracts last June as part of its effort to fend off Oracle Corp.'s ongoing hostile takeover bid [QuickLink 39343].

The decision to put a halt to the refund offers came a month after the U.S. Department of Justice filed a civil antitrust lawsuit against Oracle in an effort to block the $9.4 billion takeover attempt. The European Union is expected to decide next month whether it will also try to prevent Oracle from purchasing PeopleSoft.

Oracle declined to comment about PeopleSoft's decision to end the refund offers. Previously, it described the customer assurance program as an "unsustainable gimmick to close deals."

But the refund offer didn't appear to give PeopleSoft's sales a big boost, said Joshua Greenbaum, an analyst at Enterprise Applications Consulting in Berkeley, Calif. "It seemed more like a marketing tactic rather than something that had a material effect on sales," he said. Letting the offer expire now isn't a bad idea for PeopleSoft, Greenbaum added.

As of the end of last year, though, the refund program had created a potential liability of about $1.5 billion for Oracle and other would-be buyers of PeopleSoft, according to Swasey.

"It was very successful because it [assured] the customers that the environment was sound and the software would be viable over time," Swasey said. He declined to comment about the number of software buyers that had opted to have refunds built into their contracts. But he said that the program "was not a driver of sales by any means."

PeopleSoft's board could decide to reinstate the refund offers in the future, said Swasey, who declined to say when the board plans to meet next.

– Marc L. Songini

Dell, Oracle Ink Database, Server Deal

BY MARC L. SONGINI

Oracle Corp. has cut a deal with Dell Inc. to make the server maker its partner of choice for bundling and configuring its database software for sales to the low-end, high-volume marketplace.

The companies last week announced an exclusive arrangement that makes Dell the first hardware vendor to have a shrink-wrapped offering built around Oracle's 10g database. As part of the distribution pact, Dell will offer tested and supported servers carrying Oracle software and will act as the customer point of contact.

Oracle CEO Larry Ellison said Dell was selected because of the "wonderful job" the company is capable of doing shipping prebundled products. "We have no more important partner than Dell," he said.

Ellison also noted that Dell could help implement Oracle's grid computing vision, in which servers running Linux are tied together using Oracle's own Real Application Clusters server clustering. Support for RAC now comes with the purchase of the 10g Standard Edition license [QuickLink 44533].

Ellison suggested that instead of buying a four-way CPU box, customers could instead buy two Dell boxes with two CPUs each and run those in a RAC configuration so there would be no single point of failure. He also said the 10g automates the process of moving data onto storage disks and load-balancing it among those disks for optimal application performance.

"It's all about delivering a system that's inexpensive to buy but easy to use and with a very low total cost of ownership," Ellison said.

The Dell/Oracle systems are available now. A server running 10g on a Dell PowerEdge server with a Red Hat Linux operating system will start at $4,108.

The companies also announced future joint manageability and integration projects. **46120**

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FRANK HAYES ■ FRANKLY SPEAKING

360's Legacy

FORTY YEARS. Who'd have thought it would last so long? On April 7, 1964, IBM announced its System/360. The 360 wasn't the first mainframe, or the fastest, or even the most technically advanced. It *was* breathlessly billed by the press as IBM's bet-the-business gamble, a $5 billion investment that would make or break the company.

Actually, that last part was hype — IBM already owned 70% of the data processing market on the day the 360 was announced.

What wasn't hype was that the 360 would change IT forever. And you're still living with those changes today. For good and for ill. Whether you're a mainframer or not.

The 360 idea seems obvious now: a line of computers that could all run the same software. But until 1964, that didn't exist. Every new computer came with a new architecture. To upgrade hardware, you had to rewrite your applications. And because the life span of a mainframe product line in those days was three to six years, that meant a *lot* of rewriting.

True, every time an application was rewritten, it got better. Bugs were fixed, designs were streamlined, new ideas were implemented. But there was no choice — applications *had* to be rewritten every few years. That was expensive. And with a limited number of programmers in the world, that's about all they could do.

Enter the System/360. Suddenly, applications didn't have to be rewritten. They could be moved pretty much unchanged to new hardware. That saved programmer time and effort, which translated into saved money.

That was the obvious part. What happened next was more subtle.

Now that programmers had more time, they could do new things. And they could take on longer, more complex projects. Before the 360, a multiyear application development project would have been crazy — by the time it was done, the hardware it was written for would be obsolete.

But hardware compatibility meant platform stability. That led to application longevity, which made complexity possible. A whole new world opened up for IT, a world of huge, business-changing megaprojects. For IT, and for the businesses we serve, that's been a very good thing.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

The downside? In the pre-360 days, design decisions had a natural life span of three to six years before they were revisited during the rewrite. But with platform stability, those design decisions could last for decades.

That's how we got Y2k, isn't it? And why so many of our one-time megaprojects are now unwieldy, overly complex, hard to use and harder to maintain. They're full of design decisions that have outlived their usefulness — but as long as the applications work, more or less, we can't afford to replace them. They'll live forever.

And in the 40 years since the 360's birth, 360-style stability has turned out to be such a powerful idea that after it mowed down IBM's mainframe competitors, it became the dominant paradigm for every IT architecture that followed. We've tried to re-create the 360 on everything from minicomputers to PCs and Macintoshes, from Unix to Windows to Linux. Today, we can't imagine IT without it.

That's the 360's legacy: 40 years' worth of stability, longevity and complexity that now permeate every platform we use in IT.

That goes along with 40 years' worth of obsolete design decisions and applications that can't be changed fast enough to truly serve the constantly changing needs of our businesses — all because we're so stuck on that stability, longevity and complexity.

The 360's great strength has become our biggest weakness. And there's no sign we'll overcome it anytime soon.

So, mainframer or not, help yourself to a slice of the 360's birthday cake. The legacy of the System/360 isn't all good. But unless we find a better way to do IT, it'll be with us all for a long time to come. 46073

Clever Vendor Trick No. 17

It's the 1980s, and this start-up company has just made a big sale of its pricey artificial-intelligence-based application to a bank. As tech pilot fish is leaving to install the $200,000 software, his boss tells him, "Try to distract them when you load the software off the two floppy disks." Turns out that's easy. "My sales partner always wore a short skirt, and the bank people we interacted with were all middle-aged bank executives," fish says. "They kept their eyes on her."

SHARK TANK

Pass It On

Sales manager gets a virus-infected e-mail on his laptop, and it's flagged by anti-virus software. "But because he's so busy – and doesn't want to take the time to get the virus problem resolved on his computer – he forwards the message to his assistant and asks her to take care of it," sighs pilot fish. "Thus corrupting *her* computer as well as his."

Wrong Turn

This application is acting up, so pilot fish calls the vendor's tech support line. "After making all the right choices on the phone menu, I got through to an agent who painstakingly verified my contact information, took details of the problem and gave me a case number," fish says. "I was then told to wait to be transferred to the next available support engineer." He waits. And waits. Finally, he's connected and hears a new voice: "Welcome to AAA Auto Center. To make a reservation, press 1 . . ."

Hey, It Looks Just Fine on Paper

Tech-phobic company president wants the CFO to display an earnings graph on the wall for a management luncheon. "I'll bring my laptop and projection unit," CFO says. But boss replies, "Don't bother with all that hardware. I'm sure that with all the money spent in IT, you have something that can handle this." Grumbles on-scene pilot fish, "We had Engineering use a plotter to print out the graph on blueprint-sized paper and taped it to the wall. The president was very pleased."

Innovation

Boss complains at an all-hands meeting that his developers aren't being innovative enough. So when a new job opens up, this IT pilot fish submits the résumé of a programmer who he knows is innovative. "I think the guy is qualified," hiring manager admits. "But I don't like to hire someone more knowledgeable than me. They keep making suggestions for doing things differently, and I just want someone who will do what I ask them to do." Says fish, "I always suspected some managers thought that way – I just never met one who boldly admitted it."

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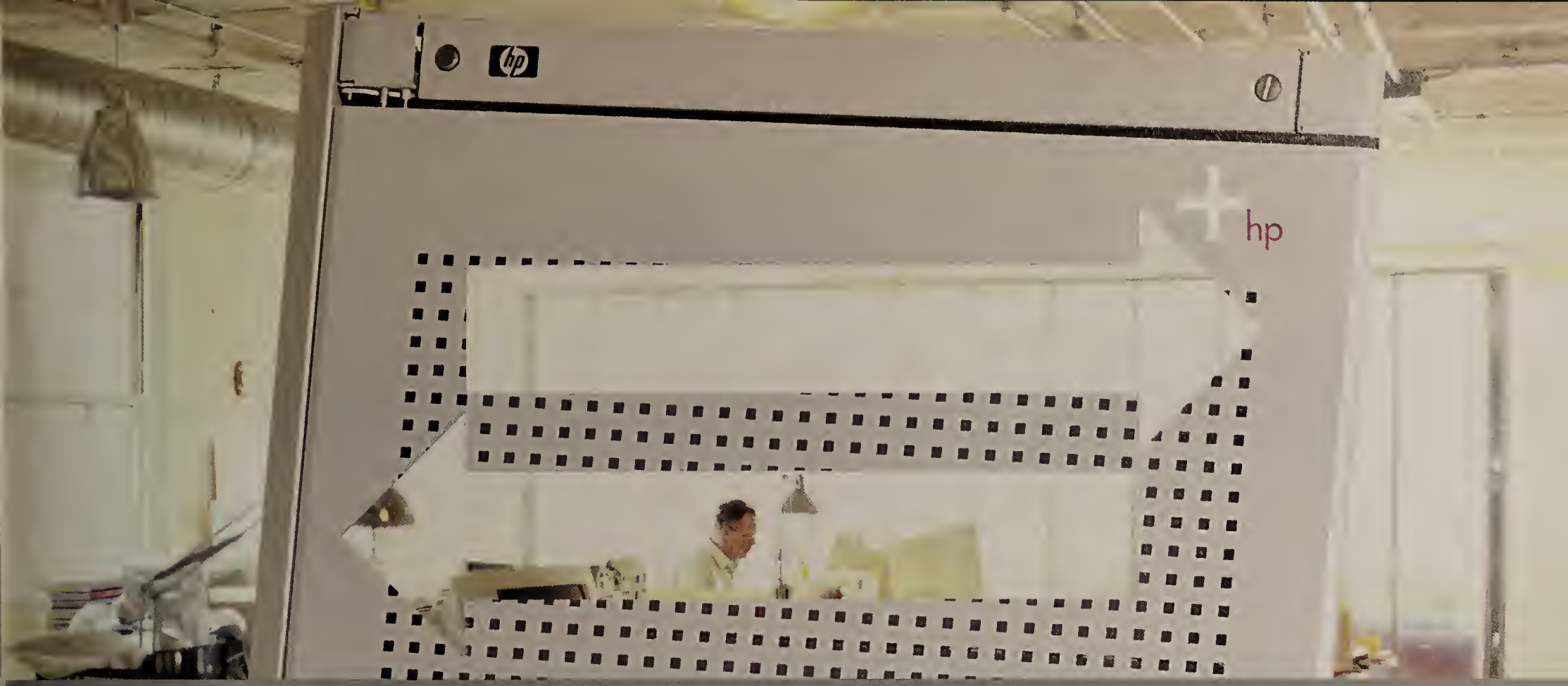

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